

HP Project and Portfolio Management Center

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HP Time Management Configuration Guide

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1 Getting Started with HP Time Management Configuration

Introduction to HP Time Management

HP Time Management is an HP Project and Portfolio Management Center (PPM Center) application that allows users (resources) to use time sheets to report how long they worked on specific “work items.” Work items are categorized in HP Time Management as requests, projects, tasks, packages, or other miscellaneous types of work. Planners or operations managers assign work items to specific resources (users). For more information about work items, see *Using Work Items in Time Sheets and Work Allocations* on page 14.

Resources can also use the My Tasks portlet to report work they have done on tasks in projects.

On an ongoing basis, the time sheets for a resource cover a consistent reporting period, such as weekly or semimonthly. At the end of each reporting period, resources submit their time sheets for approval. Designated approvers then review and approve the reported time. Project managers can compare reported “actuals” to previously estimated time and associated costs.

Depending on your responsibilities, you can use HP Time Management to do the following:

- Create and manage time sheets (many resources will use HP Time Management for only this purpose)
- Review and approve time from time sheets
- Freeze and close time sheets
- Create work allocations for packages and miscellaneous items, if needed
- Compare actual time reported by users against estimated time and associated costs
- Configure HP Time Management in a variety of ways as described in this guide

Chapter 1, *Getting Started with HP Time Management Configuration*, on page 9 (this chapter), provides the following:

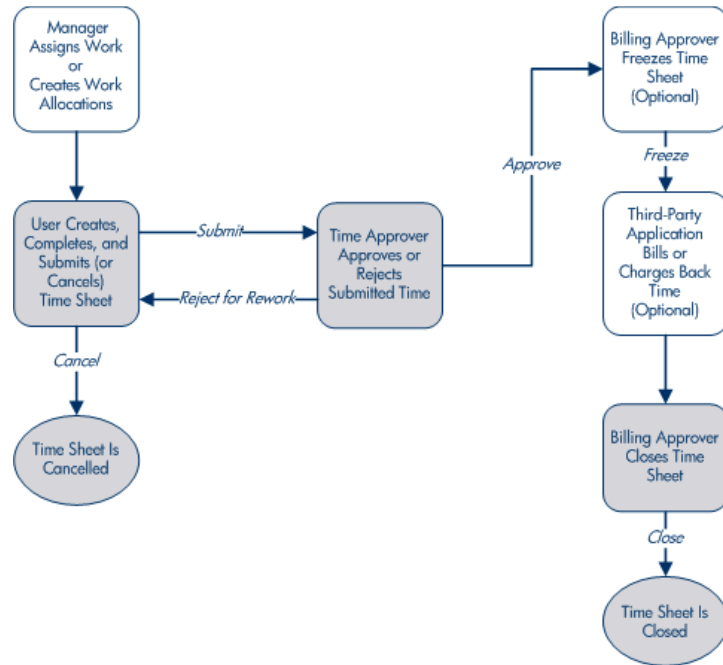
- Overview of the processing of time sheets
- Introductions to using work items, the My Tasks portlet, and integration with HP Project Management
- Overview of configuring HP Time Management
- List of other documents related to HP Time Management

Overview of the Time Management Process

HP Time Management uses time sheets to efficiently manage the time reporting and approval process. *Figure 1-1* illustrates the HP Time Management process, and subsequent sections outline the steps and the people involved in the process, and related information in this guide.

Most HP Time Management users are resources assigned to specific work items who complete time sheets to report their time, submit their time sheets for approval, and occasionally rework or cancel their time sheets, as described in detail in the *HP Time Management User's Guide*. However, PPM Center administrators can configure many different aspects of HP Time Management to meet their business needs, as described in this guide.

Figure 1-1. HP Time Management process overview



Create Work Allocations

Depending on functional requirements, managers or planners can optionally create work allocations for packages and miscellaneous work items, one per work item, to specify the following:

- The amount of time allocated to be spent on a particular work item.
- Which resources (users) are allowed to spend time on the work item.
- The charge code (or codes with relative percentages) against which the time can be billed. For information about configuring charge codes, see [Chapter 6, Charge Codes](#), on page 73.

The work item must exist before its work allocation is created and specified. The planner can then compare the actual time entered on time sheets to the time specified in the work allocation.

Work allocations for projects and tasks are superseded by the assigned resources and expected time for projects and tasks when HP Time Management and HP Project Management are integrated using the Cost and Effort policy in project settings (see the *HP Time Management User's Guide*).



Work allocations for requests are superseded by the assigned resources specified in request types (see the *HP Demand Management Configuration Guide*).

HP strongly recommends that you *not* use work allocations for projects, tasks, or requests, but only for packages and miscellaneous items as needed.

For more information about work allocations, see the *HP Time Management User's Guide*.

Create, Complete, and Submit Time Sheets

Resources who use HP Time Management enter the time they spent on work items by creating time sheets to specify which work items they worked on during the current reporting period, how much time they spent on each one, and, if configured, what types of activities they performed on those work items. Each time sheet spans a predefined time reporting period (such as a particular week or month), as determined by the time sheet policy assigned to each resource. Each work item on the time sheet is represented by a separate line. Resources submit completed time sheets for approval by designated approvers. Their managers or specified delegates can also submit time sheets on their behalf.

An administrator assigns each resource a time sheet policy, which controls many aspects of the creation and processing of time sheets, including such parameters as the time reporting period and whether resources are sent email reminders that their time sheets are due. See [Chapter 3, Time Sheet Policies, on page 25](#).

For details about how users create, edit, submit, and otherwise manage their time sheets, see the *HP Time Management User's Guide*.

There are many ways an administrator can configure time sheets and related functions, as described in [Overview of Configuring HP Time Management on page 16](#).

Cancel Time Sheets

Users (or their managers or delegates) can cancel their own time sheets. Only unsubmitted time sheets can be cancelled. Once a time sheet has been cancelled, it cannot be reopened or updated.

Approve Time

When a user completes and submits a time sheet, it progresses to a status of Pending Approval. Then the designated time approver can review and approve (or reject) the time reported on the time sheet. Typically, at the end of each time reporting period, time approvers use the Approve Time Sheets portlet or the Approve Time page to keep track of time sheets that await their approval. Each line on the time sheet can be independently approved or rejected, as necessary.

Once all the lines on a time sheet are approved, the time sheet moves forward in the process. If an approver rejects any time sheet lines, the user must rework them by, for example, correcting them and resubmitting the time sheet, or providing additional information or justification. For details about the approval process, see the *HP Time Management User's Guide*.

Some situations require bypassing the approval process. In this case, a time sheet policy can be configured to automatically approve time sheets when they are submitted. Also, depending on the time sheet policy, users might be automatically notified when any of their submitted time is rejected. See [Chapter 3, Time Sheet Policies, on page 25](#).

Freeze Time Sheets

Even after a time sheet is approved, a period of time can be allowed for users to make and submit updates and for approvers to approve the updates. However, at some point, a designated billing approver can optionally “freeze” the time sheet to prohibit further changes and allow reporting of the time sheet information or extraction of the information for a billing or financial system. When a time sheet has been frozen for sufficient time (or if it does not need to be frozen), the billing approver can “close” it.

Bill or Charge with Third-Party Applications

After a billing approver freezes a time sheet, costs can be retrieved to bill an internal or external customer. While HP Time Management does not explicitly perform this billing function, it does make the costs associated with each line of a time sheet available for billing, broken down by activity and charge code if applicable. For information about configuring charge codes, see [Chapter 6, Charge Codes, on page 73](#). Freezing a time sheet effectively prevents any further changes to that time sheet, facilitating a stable period of time during which time information can be extracted and sent to third-party financial applications.

Close Time Sheets

Once a time sheet has been approved and, if necessary, frozen for data extraction or other external use by a billing or financial system, the billing approver closes the time sheet and final reports can be generated.

Using Work Items in Time Sheets and Work Allocations

HP Time Management can use the following high-level types of work items:

- **Project.** A project in HP Project Management. A project can specify whether it tracks time at the project level, at the summary task level, or at the individual task level. For detailed information about projects, see the *HP Project Management User's Guide*.
- **Task.** A task in a project in HP Project Management. For detailed information about tasks, see the *HP Project Management User's Guide*.
- **Request.** A request in HP Demand Management. For detailed information about requests, see the *HP Demand Management User's Guide* and the *HP Demand Management Configuration Guide*.
- **Package.** A package in HP Deployment Management. For detailed information about packages, see the *HP Deployment Management User's Guide*.
- **Miscellaneous.** A miscellaneous item in HP Time Management, such as meetings and vacations. You can configure other miscellaneous work items, as required by the business.

You can enable or disable each of these work item types. This document assumes that all work item types are enabled.

Work items are specified in the following interactions:

- When a resource adds lines to a time sheet, the resource selects which type of work item to add, selects the specific item of that type, and adds that item to the time sheet. Each line on a time sheet represents one work item.
- When a planner creates an allocation for a work item, the planner selects the type of work item and then selects the specific item of that type for which to create the allocation. Work allocations support packages and miscellaneous work items.

A work item can require time and effort from more than one resource, and can span multiple steps of the process shown in *Figure 1-1 on page 11*. For example, a request to fix a defect in a software application might involve adding functionality to the application. Several different resources might contribute to this request, each performing a different type of work, such as the following:

- Initial design
- Design review and signoff
- Coding
- Testing
- Release

All involved resources can specify the same request on their time sheets, and log their individual time against that request.

Using the My Tasks Portlet and Project Integration

If a user is licensed to use HP Project Management, the My Tasks portlet is available on the user's PPM Center default page. The My Tasks portlet allows the user to log time that is then automatically copied to time sheets for tasks in projects that are integrated with HP Time Management, so that the user does not need to separately access and complete the time sheets.

From this portlet, you can enter the breakdown (in hours per day, for example) of the time worked on each task over the same time period as the time sheet. This portlet is used to report time only for tasks, not for any other types of work items such as requests or packages.

A project manager can integrate HP Time Management and HP Project Management on a project-by-project basis. If a project uses this integration capability, users report details of the time they worked on that project's tasks in either HP Time Management time sheets or in the My Tasks portlet. Then that reported time is automatically reflected in the My Tasks portlet or the time sheets respectively.

For more information about the My Tasks portlet and integration, see the *HP Time Management User's Guide*.

Overview of Configuring HP Time Management

HP Time Management administrators can control many aspects of time sheet creation and processing, depending on business needs. The major configuration items are as follows:

- **Period types and time periods.** A period type specifies the frequency at which resources must submit time sheets, such as weekly, semimonthly, or monthly. A time period is a specific date range of a given period type.

For configuration information, see [Chapter 2, Period Types and Time Periods](#), on page 21.

- **Time sheet policies.** Every resource (user) who completes a time sheet is assigned a time sheet policy. A time sheet policy sets rules in regard to completing time sheets, such as the following:
 - Period type (defined above).
 - By which of the following methods users enter time for each work item:
 - In units of hours, day by day over the time period
 - In units of hours for the entire time period
 - As a percentage of the entire time period
 - In units of days, day by day over the time period
 - In units of days for the entire time period
 - Whether time sheets display expected time for tasks.
 - Whether users are allowed to create multiple time sheets for the same time period.
 - Whether users are required to complete a time sheet for each time period.
 - Whether certain time sheet lines are automatically approved.
 - Whether users are allowed to submit time sheets that have empty lines (lines in which all values are 0).
 - Whether reminder email notifications to submit time sheets are sent to users. Reminders can be sent before unsubmitted time sheets are due, on their due date, or when they become overdue (delinquent).
 - Whether emails are sent to users whose approvers rejected reported time.
 - Maximum time per day and minimum and maximum time that can be reported on a time sheet, and if a user violates the policy, whether to prevent the user from submitting the time sheet or just warn the user (and the approver) of the violation.
 - Default charge codes for the time sheet policy.

- Which work item types (projects, tasks, requests, packages, and miscellaneous items) are enabled and which are disabled for user screens and menus. If the parameter in the `server.conf` configuration file corresponding to the work item type is disabled, it is not available to enable in the time sheet policy.
- Whether users are allowed to specify activities for any work item types and if so, whether they must specify activities for particular work item types.

You can create and specify different time sheet policies for different resources as needed.

For configuration information, see [Chapter 3, *Time Sheet Policies*, on page 25](#).

- **Resources.** A resource who uses HP Time Management must have a time sheet policy, a time approver, and a billing approver configured using HP Resource Management. (Other aspects of resource configuration include, for example, the resource's organization, role, and calendar.)

For configuration information, see [Chapter 4, *Resources*, on page 61](#).

- **Activities.** You can configure a list of activities the organization uses to categorize work, such as design work or coding (see [Using Work Items in Time Sheets and Work Allocations on page 14](#)). Then, in addition to tracking the total time spent on a given work item, HP Time Management also tracks how much of the time was spent performing different activities. Activities can also be used to classify work as depreciable for financial accounting. (You can require that users specify activities on time sheets for particular work item types, such as requests or packages.)

For configuration information, see [Chapter 5, *Activities*, on page 69](#).

- **Charge codes.** Charge codes are entities used as links between work items and charge accounts to allow time information to be extracted for a billing system used by an internal customer, external customer, or requestor.

For configuration information, see [Chapter 6, *Charge Codes*, on page 73](#).

- **Override rules.** Override rules allow you to implement specific business rules that govern the approvers or charge codes for specific work items (time sheet lines), overriding an existing time sheet policy or time

approvers. For example, you can configure an override rule such that time submitted by any resource toward a particular task is sent for approval to a specific manager, regardless of any default time approver settings.

For configuration information, see [Chapter 7, *Override Rules*, on page 81](#).

- **Filters.** Filters for HP Time Management limit the search results for work items users can add to time sheets and work allocations.

For configuration information, see [Chapter 8, *HP Time Management Filters*, on page 95](#).

- **Validations.** Validations determine the acceptable input values for fields. You can add custom items to certain fields. For example, you can supplement the default set of miscellaneous work items that can be included on a time sheet—Meetings, Other, and Vacation—with additional validations appropriate for your business, such as Business Travel.

For configuration information, see [Chapter 9, *Time Management Validations*, on page 107](#).

- **User data.** User data comprises a set of custom fields that can be defined as needed by your business. HP Time Management uses the user data type named Time Sheet Line User Data, where you can define additional fields for users to complete on the **User Data** tab of the Work Items Details window for their time sheet lines. Optionally, you can configure user data fields such that users must specify values for them on each time sheet line before they can save the time sheet. For example, you might require that users select either **Internal** or **External** from a drop-down list for a field you call **Initiative Type**, and that users specify a text field you call **# Staff Affected**.

For configuration information, see [Chapter 10, *Time Management User Data*, on page 113](#).

- **Rules for the Suggested Items list.** HP Time Management automatically provides a Suggested Items list of work items that users are likely to add to their time sheets. This reduces the need for users to search for work items. You can customize the rules that govern which work items are automatically included in the Suggested Items list.

For configuration information, see [Chapter 11, *Rules for the Suggested Items List*, on page 119](#).

In addition, administrators can run a script provided by HP to import large volumes of time sheet data from external applications into the database of PPM Center. For more information, see [Appendix A, *Importing Time Sheet Data from External Applications*](#), on page 131.

Related Information

The following documents also include information related to configuring HP Time Management:

- *HP Time Management User's Guide*
- *HP Demand Management User's Guide*
- *HP Demand Management Configuration Guide*
- *HP Deployment Management User's Guide*
- *HP Deployment Management Configuration Guide*
- *HP Project Management User's Guide*
- *HP Financial Management User's Guide*
- *Commands, Tokens, and Validations Guide and Reference*
- *Security Model Guide and Reference*
- *HP-Supplied Entities Guide* (includes descriptions of all HP Time Management portlets, reports, and request types)

Other more general information of interest is available in the *Getting Started* guide.

2 Period Types and Time Periods

Overview of Period Types and Time Periods

This section details how to configure HP Time Management period types and time periods.

A period type specifies the frequency at which resources must submit time sheets. A time period (period) is a specific date range of a given period type.

The available period types are as follows:

- **Weekly.** Resources submit time sheets every week. Each period starts on a Monday by default. To change which day of the week each period starts on, see [Enabling and Disabling Period Types on page 22](#).
- **Bi-Weekly.** Resources submit time sheets every two weeks. Each period starts on a Monday by default. For example, 8/29/10 – 9/11/10 is a biweekly time period in August and September 2010. To change which day of the week each period starts on, see [Enabling and Disabling Period Types on page 22](#).
- **Semi-Monthly.** Resources submit time sheets twice a month. The first time period always starts on the 1st and ends on the 15th of the month. For example, the two semimonthly time periods of September 2010 are 9/1/09 – 9/15/10 and 9/16/10 – 9/30/10.
- **Monthly.** Resources submit time sheets once a month. Each time period covers one full calendar month, such as 9/01/10 – 9/30/10 for September 2010.



When period types are shorter, users experience faster response times as they use their time sheets.

Enabling and Disabling Period Types

Up to four period types can be enabled. Enabling period types makes them available to HP Time Management. For information about selecting an enabled period type to use in a time sheet policy, see [Chapter 3, Time Sheet Policies](#), on page 25.

Enabling or disabling period types requires knowledge of SQL and DBA privileges. See your application administrator regarding selecting and enabling period types. The supported period types are listed in [Table 2-1](#). Supported values for the associated `duration_code` are case-sensitive.

Table 2-1. Period types and supported `duration_code` values

Period Type	Supported <code>duration_code</code> Values
Weekly	WEEKLY
Bi-Weekly	BI_WEEKLY
Semi-Monthly	SEMI_MONTHLY
Monthly	MONTHLY

By default, only the Semi-Monthly period type is enabled.

To enable or disable a period type:

1. Connect to the database schema containing the PPM Center installation (using SQL*Plus or your choice of SQL editor).
2. Run the following query to check the supported options:

```
SQL> SELECT * FROM KTMG_PERIOD_TYPES
```

This query should return the four period types.

3. To enable a period type, set the enabled flag to **Y** for the period types.

For example:

```
SQL> UPDATE ktmg_period_types  
SQL> SET enabled_flag = 'Y'  
SQL> WHERE duration_code = '<Supported Value>'
```

where **<Supported Value>** is one of the supported values listed in [Table 2-1](#).

Each period type can be enabled or disabled. For example, to enable Weekly and Monthly period types and disable Bi-Weekly and Semi-Monthly period types, use the following:

```
SQL> UPDATE ktmg_period_types
SQL> SET enabled_flag = 'Y'
SQL> WHERE duration_code = 'WEEKLY'

SQL> UPDATE ktmg_period_types
SQL> SET enabled_flag = 'N'
SQL> WHERE duration_code = 'BI_WEEKLY'

SQL> UPDATE ktmg_period_types
SQL> SET enabled_flag = 'N'
SQL> WHERE duration_code = 'SEMI_MONTHLY'

SQL> UPDATE ktmg_period_types
SQL> SET enabled_flag = 'Y'
SQL> WHERE duration_code = 'MONTHLY'
```

4. For the Weekly and Bi-Weekly period types, you can change the day of the week that starts the time period, as specified by `start_day_code`. By default, the start day is Monday, but you can use SQL to change it to any day of the week. For example, to set `start_day_code` to Sunday for the Weekly period type, use the following:

```
SQL> UPDATE ktmg_period_types
SQL> SET start_day_code = 'SUNDAY'
SQL> WHERE duration_code = 'WEEKLY'
```

The possible values for `start_day_code` are as follows:

- SUNDAY
- MONDAY
- TUESDAY
- WEDNESDAY
- THURSDAY
- FRIDAY
- SATURDAY

Creating Time Periods

This section details how to create time periods. When you create time periods, you specify the number of time periods to create. For example, if the period type is set to Weekly and 52 time periods are created, a one-year supply of time periods becomes available to users for time sheet creation. You can add other time periods at any time. Period types must be configured before creating time periods (see [Enabling and Disabling Period Types on page 22](#)).

To create time periods, you must have administrative access to the PPM Server such that you can run scripts under the home directory of the PPM Center application suite. The following steps outline how to use the tools provided on the PPM Server to create the required time periods:

1. Log on to the PPM Server as the application administrator.
2. Navigate to the `<PPM_Home>/bin` directory, where `<PPM_Home>` is the location where PPM Center was installed.
3. Run the `kGenTimeMgmtPeriods.sh` command as follows:

```
sh kGenTimeMgmtPeriods.sh <number of periods to create>
```

where `<number of periods to create>` is the number of time periods to create for a specific period type.

A prompt is displayed for you to choose the period type. By default, time periods start from the current date.

For additional `kGenTimeMgmtPeriods.sh` options, such as specifying a starting date for the time periods, execute the script with no parameters and select **Help**.

4. Repeat [step 3](#) for each enabled period type.

3 Time Sheet Policies

Overview of Time Sheet Policies

Time sheet policies are rules designed to control the creation and operation of time sheets. You can configure different time sheet policies and apply them to different resources (one by one) as needed. For example, you might want different time sheet policies to apply to different resources depending on their business units or whether they are employees or contractors.

Every resource is assigned a time sheet policy. You can designate one time sheet policy as the global time sheet policy (see [Configuring the Global Time Sheet Policy on page 58](#)). By default every resource is assigned this time sheet policy.

After you create new time sheet policies, you can assign them to specific resources as needed. If necessary, you can also edit existing time sheet policies, and the changes will apply to their assigned resources.



Most changes to existing time sheet policies affect only time sheets that are created after the policy change. Exceptions are noted in following sections where appropriate.

The Time Sheet Policy window consists of the following section and tabs (configuration of each is described in this chapter):

- **General information section.** This section appears above the Time Sheet Policy window tabs and shows the **Name** of the time sheet policy and the **Period Type**—**Weekly**, **Bi-Weekly**, **Semi-Monthly**, or **Monthly**—that is to be used to log time.

- **Time Sheet Policy tab.** This tab is the default tab displayed when the Time Sheet Policy window opens. On this tab, you specify how resources who are assigned this policy are to enter time worked on their time sheets—by **Day in Hours**, **Period in Hours**, **Period in Percent**, **Day in Days**, or **Period in Days**. You specify whether resources view expected time for tasks on their time sheets. You can also allow a resource to create multiple time sheets for the same time period, require resources to submit a time sheet for each time period, and set up automatic time sheet approval. Finally, you can specify whether resources who are assigned this policy are allowed to submit time sheets that have empty lines (lines in which all values are 0).
- **Notifications tab.** On this tab, you can specify when email notifications should be sent to resources and what they should say. Notifications can be used to remind resources to submit time sheets (before or after they are due, or both). Notifications can also be used to tell resources that an approver has rejected time they submitted.
- **Min/Max Enforcement tab.** On this tab, you can set the maximum time that resources can report on a time sheet for one day, and the minimum and maximum total time they can report on a time sheet (or the minimum and maximum percentages they can report if time is entered by **Period in Percent**). You can also set the level of enforcement to only warn resources and approvers of policy violations, or to prevent resources from submitting time sheets that have violations.
- **Charge Codes tab.** On this tab, you set the default charge code or apportioned charge codes for the time sheet policy. For information about creating charge codes and how HP Time Management prioritizes time sheet policies among other factors in determining which charge codes to apply to the time logged by a resource, see [Chapter 6, Charge Codes](#), on page 73.
- **Work Items tab.** On this tab, you specify, in any combination, the work item types against which users are allowed to log time.
- **Activities tab.** This tab allows you to control whether users are allowed to specify activities for any work items at all. If allowed, you can require that users specify activities for any of the work item types—projects, tasks, requests, packages, or miscellaneous items—on their time sheets. For information about creating activities, see [Chapter 5, Activities](#), on page 69.

Creating a Time Sheet Policy

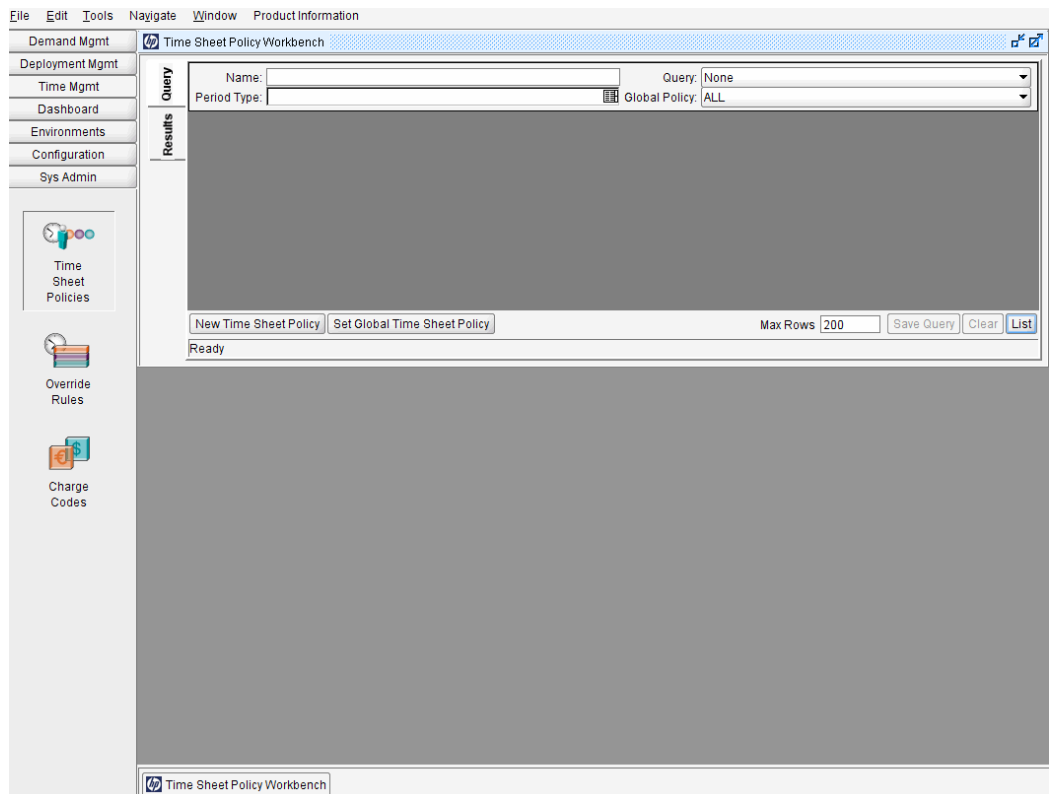
To create a time sheet policy, open the Time Sheet Policy Workbench for configuration as follows:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Time Sheet Policies**.

The Time Sheet Policy Workbench opens.



4. Click **New Time Sheet Policy**. (If you want to revise an existing policy, click **List**, and open the desired policy in the **Results** tab.)

The Time Sheet Policy window opens.

Time Sheet Policy: Untitled1

Name:

Period Type: **Bi-Weekly**

Time Sheet Policy | Notifications | Min/Max Enforcement | Charge Codes | Work Items | Activities

Enter Time by: **Day in Hours**

☒ Show Expected Time on Time Sheet.

☐ Resources are allowed to create multiple Time Sheets for the same time period. No limits are enforced on the minimum and maximum reported hours across multiple time sheets. The Min/Max Enforcement tab will be disabled.

☐ Resources are expected to fill out a Time Sheet for each time period. They appear in the Delinquent Time Sheets report if they have not submitted a Time Sheet. Resources with delinquent Time Sheets can be sent notifications.

☐ Auto-Approve time. Time sheet lines will be automatically approved upon submission unless they are associated with a project that requires project-controlled time approval.

Specify the level of enforcement for empty lines (lines on which no time is entered) in the Time Sheet

☐ Allow the Resource to submit a Time Sheet containing empty lines, with no warning.

☐ Allow the Resource to submit a Time Sheet containing empty lines, but show a warning upon submission and provide an option for the Resource to make further updates to the Time Sheet before submitting it.

☒ Prevent the Resource from submitting a Time Sheet containing empty lines. The Resource must enter time on all lines in the Time Sheet (or remove the empty lines) before it can be submitted.

OK Save Cancel

Ready

5. Configure the time sheet policy as described in the following sections:
 - *Configuring General Information and the Time Sheet Policy Tab on page 29*
 - *Configuring the Notifications Tab on page 34*
 - *Configuring the Min/Max Enforcement Tab on page 43*
 - *Configuring the Charge Codes Tab on page 51*
 - *Configuring the Work Items Tab on page 55*
 - *Configuring the Activities Tab on page 56*

Configuring General Information and the Time Sheet Policy Tab

To complete the general information section of the time sheet policy:

1. Make sure that the required period types and time periods are configured, as described in [Chapter 2, *Period Types and Time Periods*, on page 21](#).
2. At the top of the Time Sheet Policy window, in the **Name** field, enter the name of the new time sheet policy. (The examples in this chapter use the time sheet policy name **Contractors**.)
3. In the **Period Type** field, select the period type to use for this policy.

To complete the **Time Sheet Policy** tab:

1. In the **Enter Time by** field, specify how resources will enter time in their time sheets. The options are as follows:
 - **Day in Hours.** Resources will report time for each work item in units of hours, with one column for each day of the time period. The number of columns depends on the period type (7 for weekly, 14 for biweekly, and so on).
 - **Period in Hours.** Resources will report time for each work item as the total number of hours over the entire time period. There is only one column for the entire time period.
 - **Period in Percent.** Resources will report time for each work item as a percentage of the entire time period. There is only one column for the entire time period. If you select this option, the **Hours in a time period** options appear below it, as described in [step 2](#).

Unless you specify a maximum of 100 percent and a minimum of 100 percent per time sheet on the **Min/Max Enforcement** tab, resources who enter time by **Period in Percent** can submit a time sheet with lines that total more than or less than 100 percent. See [Configuring the Min/Max Enforcement Tab on page 43](#).

- **Day in Days.** Resources will report time for each work item in units of days, with one column for each day of the time period. The number of columns depends on the period type (7 for weekly, 14 for biweekly, and so on). If you select this option, the **Hours in a day** option appears below it, and you must specify the number of hours in a full workday for resources who have this policy.

- **Period in Days.** Resources will report time for each work item as the total number of days over the entire time period. There is only one column for the entire time period. If you select this option, the **Hours in a day** option appears below it, and you must specify the number of hours in a full workday for resources who have this policy.



When users enter data for an entire period (**Period in Hours**, **Period in Percent**, or **Period in Days**) rather than for a day at a time (**Day in Hours** or **Day in Days**), they experience faster response times as they use their time sheets.

2. If you chose to have resources enter time by **Period in Percent** in [step 1](#), the **Hours in a time period** options appeared and you must perform this step; if you chose a different option in [step 1](#), proceed to [step 3 on page 31](#). If you chose **Period in Percent**, select one of the following options and specify a number of hours so that HP Time Management can convert the percentages that resources enter into actual hours for each work item for the time period:

- **(Number of workdays in the time period) X Hours in a day ____**, where **X** denotes multiplication and you enter the number of work hours in a day in the numeric text box. With this selection, the number of hours in a time period—the product of the multiplication—varies among time periods according to the number of workdays each time period has.

When you specify that resources are to enter time by **Period in Percent** with this variable number of hours in a time period, there are subtleties to consider. The basis (denominator) of the percentage a resource specifies is intended to be the total time in the time period. Assuming five workdays every week, time periods for a **Monthly** period type vary in length from 20 to 23 workdays, and time periods for a **Semi-Monthly** period type vary from 9 to 12 workdays.



Additionally, for the numerator of the percentage, if a work item of fixed duration is performed repeatedly, for example if a two-hour meeting is held every Tuesday, there are four occurrences (four Tuesdays) in some months and five in others, or two occurrences in some semimonthly time periods and three in others.

If time sheets must be precise, resources who work on more than one work item might need to recalculate for each time sheet the *percentages* of the time they report for each work item. HP recommends using this option only if it is acceptable for resources to report approximate percentages.

- **Fixed number of hours** ____ for a time period. With this selection, every time period has the same number of hours. Even the effect of specifying any normal working days as non-working days in calendars is overridden.

For example, assume the following:

- The **Period Type** is **Monthly**.
- Time is entered by **Period in Percent**.
- The **(Number of workdays in the time period) X Hours in a day** ____ option is chosen, with **Hours in a day** specified as 8.
- The user creates a time sheet for a month that has 22 working days.

If the user enters 10 percent for a particular work item, HP Time Management displays and reports that time as 10% of 22 * 8 hours, or 17.60 hours.

3. If you want resources who are assigned this policy to view the **Expected Hours** or **Expected Days** column on their time sheets, select the **Show Expected Time on Time Sheet** check box. If not, clear the check box.
4. If you want to allow resources who are assigned this policy to create multiple time sheets for any given time period, select the check box with text that begins with **Resources are allowed to create multiple Time Sheets for the same time period**. Selecting this option disables the **Min/Max Enforcement** tab. Since time is approved at the time sheet line level, you might not need to allow multiple time sheets in a period.

For projects that use integration of HP Time Management and HP Project Management, a user's My Tasks portlet shows the total time the user reported for a project or task in all the user's time sheets from all time periods, whether or not multiple time sheets for any one time period are allowed. The My Tasks portlet provides the user with links to each of the user's time sheets. For details about integration, see the *HP Time Management User's Guide*.



5. If you want all of the following results to occur, select the check box with text that begins with **Resources are expected to fill out a Time Sheet for each time period.**:
- Resources who are assigned this policy (or their managers or delegates) are required to complete a time sheet for each time period, even if they are on vacation or performed no work that is tracked.
 - Overdue time sheets for those resources appear in the Delinquent Time Sheets report.
 - Email notifications can be sent to resources to remind them to submit their time sheets. These notifications can be sent before unsubmitted time sheets are due, on their due date, or when they become delinquent. For information about configuring these notifications, see [Configuring the Notifications Tab](#).
6. If you want time to be approved automatically when submitted by resources who are assigned this policy, select the check box with text that begins with **Auto-Approve time**. This option is useful when detailed approvals are not important to the organization.


Changes to automatic approval take effect when currently unsubmitted or new time sheets are submitted.

If a project is integrated with HP Time Management and explicitly requires time approval by a project representative (as specified in the **Cost and Effort** policy of the Project Settings page), the time logged against tasks in that project is not automatically approved, regardless of the setting of this option.

For more information about configuring time approval in the **Cost and Effort** policy of the Project Settings page, see the chapter on integrating HP Time Management and HP Project Management in the *HP Time Management User's Guide*.



7. In the **Specify the level of enforcement for empty lines (lines on which no time is entered) in the Time Sheet** section, specify the desired option to do one of the following:
- Allow resources to submit time sheets that include empty lines (lines in which all values are 0), with no warning message.
 - Allow resources to submit time sheets that include empty lines, but only after displaying a warning that lists the empty lines and gives the user the option to update the time sheets before submitting them. Options are available to the user to delete all the empty lines at once or move all the empty lines to the user's My Items list.
 - Prevent resources from submitting time sheets that include empty lines and display a message that lists the empty lines the resources must either delete or update before submitting the time sheets. Options are available to the user to delete all the empty lines at once or move all the empty lines to the user's My Items list.



The default value of this option for a new time sheet policy corresponds to the setting of the `ENABLE_TM_ALLOW_EMPTY_ITEM` parameter in the `server.conf` configuration file, but the option you choose in this step controls the operation when resources submit time sheets with empty lines.

To improve PPM Center performance and to make it easier for approvers to review submitted time sheets, HP strongly recommends that you prevent resources from submitting time sheets that have empty lines.

8. At the bottom of the Time Sheet Policy window, click **OK**.

The time sheet policy is created.

9. Double-click the new time sheet policy in the list to reopen it.

As described in the following sections, complete the other tabs of the time sheet policy as needed.

Configuring the Notifications Tab

In the **Notifications** tab, you can specify that resources with this time sheet policy will be sent the following types of email notifications:

- Reminders to submit their time sheets, if the resources assigned this policy are required to complete time sheets for each time period. You specify when the reminders are to be sent and what to say in them. See [Sending Reminders to Users to Submit Time Sheets on page 34](#).
- Email messages whenever time the resources have submitted for approval gets rejected. See [Sending Notifications of Rejected Time to Users on page 39](#).

Changes to notification configuration take effect within the time specified for the `EMAIL_NOTIFICATION_CHECK_INTERVAL` parameter in the `server.conf` file (set to 20 seconds by default), for both open and new time sheets. Open time sheets are time sheets that have not been closed.



You can enable or disable all notifications for individual resources, which overrides any configuration of the **Notifications** tab of the time sheet policy for those individuals. For example, you might not want to send notifications to certain executives. See [Configuring a Resource's Time Sheet Policy and Default Approvers on page 64](#).

Sending Reminders to Users to Submit Time Sheets

Time sheets are due when their time periods end. You can send users who are required to submit time sheets one or more email reminders to do so. You specify how many days before or after the due date a reminder is to be sent. You can configure multiple reminders. Each user is sent one email per time sheet per configured reminder.

If a user has already submitted a time sheet when a reminder for that time sheet is scheduled to be sent, the reminder is not sent.

Reminders are sent soon after midnight the day after the day you specify. Examples are provided later in this procedure.

To send reminders to submit time sheets to all the users with this time sheet policy:

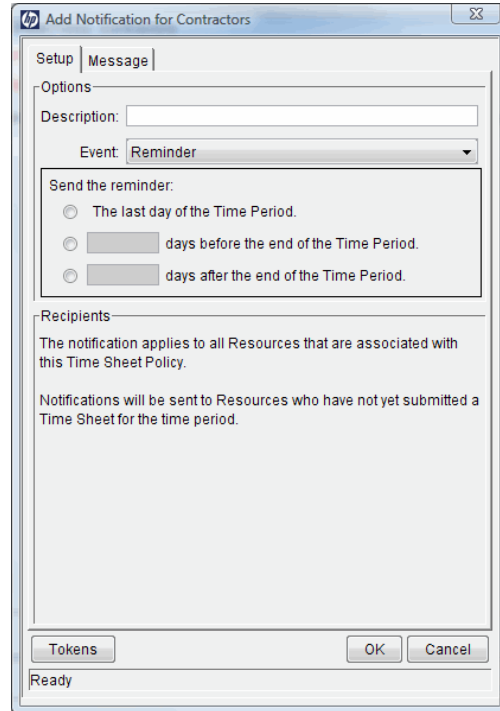
1. Reminders are allowed only for users whose time sheet policies require submitting a time sheet for each time period. On the **Time Sheet Policy** tab, select the check box with text that begins with **Resources are expected to fill out a Time Sheet for each time period.**
2. In the Time Sheet Policy window, select the **Notifications** tab.

The screenshot shows a software window titled "Time Sheet Policy : Contractors". At the top, there is a "Name:" field with the value "Contractors" and a "Period Type:" dropdown menu set to "Semi-Monthly". Below these are several tabs: "Time Sheet Policy", "Notifications" (which is selected), "Min/Max Enforcement", "Charge Codes", "Work Items", and "Activities". The "Notifications" tab contains a table with two columns: "Send" and "Description". The table is currently empty. At the bottom of the window, there are buttons for "New", "Edit", "Copy", and "Delete". Below these are "OK", "Save", and "Cancel" buttons. The status bar at the very bottom indicates "Ready".

3. In the **Notifications** tab, click **New**.

The Add Notifications window opens, with the following two tabs:

- **Setup** tab (displayed by default)
- **Message** tab



4. On the **Setup** tab, do the following:
 - a. In the **Event** field, select **Reminder**.
 - b. In the **Description** field, enter a description of the reminder.

- c. In the **Send the reminder** section, specify when to send the reminder.

Each user with this time sheet policy will be sent this reminder only once per time sheet, soon after the *end* of the day you select. For example, if a Weekly time period ends on Friday, September 3 and the reminder is configured to be sent the last day of a time period, it could be sent at about 12:05 a.m. on Saturday, September 4. If you want each user to receive a reminder each Friday in this example, configure the reminder to be sent each Thursday, the day before the end of the time period.

5. Select and complete the **Message** tab as follows:

The screenshot shows a dialog box titled "Add Notification for Contractors" with a "Setup" tab selected. The "Message" sub-tab is active. The "Notification Template" is set to "HTML Message for Time Sheets (HTML)" and the "Notification Format" is set to "HTML". The "From:" and "Reply To:" fields are empty, each with "Choose..." and "Clear" buttons. The "Subject:" field contains "Time Sheet for Time Period [TMG.TIME_PERIOD] is due.". The "Body:" field contains HTML code for a notification. At the bottom, there are "Tokens", "OK", and "Cancel" buttons, and a "Ready" status bar.

Setup Message

Notification Template: HTML Message for Time Sheets (HTML)

Notification Format: HTML

From: Choose... Clear

Reply To: Choose... Clear

Subject: Time Sheet for Time Period [TMG.TIME_PERIOD] is due.

Body:

```
<td class="notificationtext"
colspan="2" nowrap>You need to submit a Time
Sheet for the Time Period [TMG.TIME_PERIOD].</td>
</tr>
<tr>
<td class="notificationtext"><a
href="[TMG.CREATE_TIME_SHEET_URL]">Open or Create
Time Sheet</td>
</tr>
</table>
</td>
<td class="notificationspace"></td>
</tr>
<tr>
<td height="20" colspan="2"></td>
</tr>
</table>
</body>
</html>
```

Tokens OK Cancel

Ready

- a. In the **Notification Template** field, select the notification template.
- b. In the **Notification Format** field, select the notification format.

Notifications can be in plain text or HTML.

- c. Click the **Choose** button to the right of the **From** field, which specifies the sender of the email notification as seen by its recipients.

The Email Header Field window opens, with the following options:

- **Enter a Username.** Use this option to specify a particular user to receive the notification. The user must have an email address.
- **Enter an Email Address.** Use this option to enter an email address for the notification.
- **Enter a Standard Token.** Use this option to select from a list of system tokens that correspond to a user, security group, or email address.
- **Enter a User Defined Token.** Use this option to enter any field token that corresponds to a user, security group, or email address.

Select one of these options. The other fields of the Email Header Field window are automatically updated accordingly.

- d. Complete the other fields in the Email Header Field window and click **OK**.
- e. Repeat [step c on page 38](#) and [step d](#) for the **Reply To** field, which specifies where user replies will be sent.
- f. Complete the **Subject** field for the reminder notification.

The default **Subject** field is as follows:

Time Sheet for Time Period [TMG.TIME_PERIOD] is due.

The token **[TMG.TIME_PERIOD]** displays the time period for which the notification is being sent. You can use the default **Subject** field entry or enter your own subject line to be used in the email notification. You might want the **Subject** field to reflect when the reminders will be sent relative to when the time sheets are due.

- g. In the **Body** field, complete the text of the notification that reminds users to submit time sheets. Use or revise the default entry, or enter your own message. You might want the text to reflect when the reminders will be sent relative to when the time sheets are due.

- h. Click **OK**.

The changes are added to the **Notifications** tab.

6. If you want to send email reminders to users with this time sheet policy on multiple days before or after their time sheets are due, repeat [step 3 on page 36](#) through [step 5 on page 37](#).
7. Click **OK** or, to configure other tabs, click **Save**.

The changes to the time sheet policy are saved. For details about when reminder notifications are sent, see [step 4 on page 36](#).

Sending Notifications of Rejected Time to Users

To immediately notify users who are assigned this policy if some of their submitted time (that is, some of the time sheet lines on their time sheets) has been rejected by an approver:

1. In the Time Sheet Policy window, select the **Notifications** tab.

The screenshot shows a window titled "Time Sheet Policy : Contractors". At the top, there is a "Name:" field with the value "Contractors" and a "Period Type:" dropdown menu set to "Semi-Monthly". Below these are several tabs: "Time Sheet Policy", "Notifications", "Min/Max Enforcement", "Charge Codes", "Work Items", and "Activities". The "Notifications" tab is currently selected. Inside this tab, there is a table with two columns: "Send" and "Description". The table is currently empty. At the bottom of the window, there are buttons for "New", "Edit", "Copy", and "Delete". At the very bottom, there are "OK", "Save", and "Cancel" buttons. The status bar at the bottom left says "Ready".

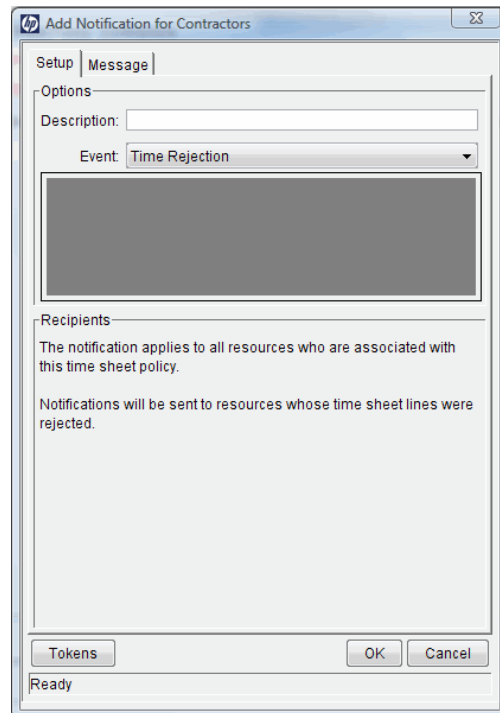
2. In the **Notifications** tab, click **New**.

The Add Notifications window opens, with the following two tabs:

- **Setup** tab (displayed by default)
- **Message** tab

3. On the **Setup** tab, do the following:

- a. In the **Event** field, select **Time Rejection**.



- b. In the **Description** field, enter a description of the notification.

4. Select and complete the **Message** tab as follows:

hp Add Notification for Contractors

Setup Message

Notification Template: HTML Message for Time Sheet Rejection...

Notification Format: HTML

From: Choose... Clear

Reply To: Choose... Clear

Subject: e sheet [TMG.TIME_SHEET_DESCRIPTION] was rejected

Body:

```

</tr>
<tr>
  <td class="notificationtext"
  colspan="2" nowrap>
    You need to rework one or more lines
    on the <a href="[TMG.OPEN_TIME_SHEET_URL]">time
    sheet</a>.
  </td>
</tr>
</table>
<td class="notificationspace"></td>
</tr>
<tr>
  <td height="20" colspan="2"></td>
</tr>
</table>
</body>
</html>

```

Tokens OK Cancel

Ready

- In the **Notification Template** field, select the notification template.
- In the **Notification Format** field, select the notification format.
- Click the **Choose** button to the right of the **From** field, which specifies the sender of the email notification as seen by its recipients.

The Email Header Field window opens, with the following options:

- **Enter a Username.** Use this option to specify a particular user to receive the notification. The user must have an email address.
- **Enter an Email Address.** Use this option to enter an email address for the notification.
- **Enter a Standard Token.** Use this option to select from a list of system tokens that correspond to a user, security group, or email address.
- **Enter a User Defined Token.** Use this option to enter any field token that corresponds to a user, security group, or email address.

Select one of these options. The other fields of the Email Header Field window are automatically updated accordingly.

- d. Complete the other fields in the Email Header Field window and click **OK**.
- e. Repeat [step c](#) and [step d](#) for the **Reply To** field, which specifies where user replies will be sent.
- f. Complete the **Subject** field for the notification.

The default **Subject** field is as follows:

Your time sheet [TMG.TIME_SHEET_DESCRIPTION] was rejected.

The token [TMG.SHEET_DESCRIPTION] displays the current time sheet description. You can use the default **Subject** field entry or enter your own subject line to be used in the email notification.

- g. In the **Body** field, complete the body of the notification that tells users that time they submitted has been rejected, and that rework is required. Use or revise the default entry, or enter your own message.
- h. Click **OK**.

The changes are added to the **Notifications** tab.

- 5. Click **OK** or, to configure other tabs, click **Save**.

The changes to the time sheet policy are saved. Users are notified whenever time on their submitted time sheets gets rejected.

Configuring the Min/Max Enforcement Tab

In the **Min/Max Enforcement** tab, you can do the following:

- If resources enter their time in hours per day, you can specify the maximum number of hours you allow them to enter for any one day, and the maximum and minimum number of hours you allow them to enter for an entire time sheet.
- If resources enter their time in hours per period (that is, hours per time sheet), you can specify the maximum and minimum number of hours you allow them to enter for a time sheet.
- If resources enter their time as a percentage of the period, you can specify the maximum and minimum percentage of the period you allow them to enter for a time sheet.
- If resources enter their time in fractions of each day, you can specify the maximum number of days you allow them to enter for any one day, and the maximum and minimum number of days you allow them to enter for an entire time sheet.
- If resources enter their time in total number of days, you can specify the maximum and minimum number of days you allow them to enter for an entire time sheet.
- You can specify an enforcement level for the limits you specify.



The **Min/Max Enforcement** tab is disabled if resources are allowed to enter multiple time sheets per time period as specified on the **Time Sheet Policy** tab. See [Configuring General Information and the Time Sheet Policy Tab on page 29](#).



Before you configure the **Min/Max Enforcement** tab, you must enable the desired period types and create time periods as described in [Chapter 2, Period Types and Time Periods, on page 21](#).

In all entries of minimum and maximum hours, users can specify partial hours to two decimal places, such as 8.25. In all entries of minimum and maximum days, users can specify partial days to three decimal places, such as 0.125, which is equivalent to one hour for an 8-hour day.

To configure this tab:

1. In the Time Sheet Policy window, select the **Min/Max Enforcement** tab.

The options and associated text that appear in the **Enforce the Following Policies** section depend on the values specified for the period type and for how resources enter time. The configuration of the options in the **Enforce the Following Policies** section varies accordingly, as described in [step 2](#).

2. Use the procedure in one of the following major bullets to complete the check boxes and numeric fields in the **Enforce the Following Policies** section:
 - If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Hours** or **Period in Hours**, *and* if the **Period Type** specified above the tabs is **Monthly** or **Semi-Monthly** (where, for both cases, time periods have a variable number of workdays), do the following:

The screenshot shows the 'Time Sheet Policy : Contractors' window with the 'Min/Max Enforcement' tab selected. The 'Name' field is 'Contractors' and the 'Period Type' is 'Semi-Monthly'. The 'Enforce the Following Policies' section has three checkboxes: 'Maximum hours allowed per day' (unchecked), 'Maximum hours allowed per Time Sheet' (unchecked), and 'Minimum hours allowed per Time Sheet' (unchecked). Each checkbox has a corresponding numeric input field and a label 'Hours per day x Number of Workdays in Time Period'. The 'Choose the Level of Enforcement' section has two radio buttons: 'Warn the Resource and Approver if the minimum is not met or the maximum is exceeded.' (selected) and 'Prevent the Resource from submitting the Time Sheet until the minimum is met and the maximum is not exceeded.' (unselected). At the bottom are 'OK', 'Save', and 'Cancel' buttons, and a status bar says 'Ready'.

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Hours**, as needed select the **Maximum hours allowed per day** check box and specify the highest number of work hours to allow a resource to enter for any one workday.

This check box is not present if the **Time Sheet Policy** tab specifies that resources enter time by **Period in Hours**.

- As needed, select the **Maximum hours allowed per Time Sheet** check box and specify the maximum number of hours to allow a resource to enter for any one workday. HP Time Management will multiply this value by the (variable) number of workdays in a time period.
- As needed, select the **Minimum hours allowed per Time Sheet** check box and specify the minimum number of hours to allow a resource to enter for any one workday. HP Time Management will multiply this value by the (variable) number of workdays in a time period.

Proceed to [step 3 on page 51](#).

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Hours** or **Period in Hours**, *and* if the **Period Type** specified above the tabs is **Bi-Weekly** (where there are 14 days and ten workdays in every period) or **Weekly** (where there are seven days and five workdays in every time period), do the following:

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Hours**, as needed select the **Maximum hours allowed per day** check box and specify the highest number of work hours to allow a resource to enter for any one workday.

This check box is not present if the **Time Sheet Policy** tab specifies that resources enter time by **Period in Hours**.

- As needed, select the **Maximum hours allowed per Time Sheet** check box and specify the maximum total number of work hours to allow a resource to enter for any one time sheet.
- As needed, select the **Minimum hours allowed per Time Sheet** check box and specify the minimum total number of work hours to allow a resource to enter for any one time sheet.

Proceed to [step 3 on page 51](#).

- If the **Time Sheet Policy** tab specifies that resources enter time by **Period in Percent**, do the following:

The screenshot shows a dialog box titled "Time Sheet Policy : Contractors". It has a "Name" field with the value "Contractors" and a "Period Type" dropdown menu set to "Semi-Monthly". Below these are several tabs: "Time Sheet Policy", "Notifications", "Min/Max Enforcement", "Charge Codes", "Work Items", and "Activities". The "Time Sheet Policy" tab is selected, displaying two sections. The first section, "Enforce the Following Policies:", contains two checkboxes: "Maximum percent allowed per Time Sheet" and "Minimum percent allowed per Time Sheet", each followed by a text input field. The second section, "Choose the Level of Enforcement:", contains two radio buttons. The first radio button is selected and is labeled "Warn the Resource and Approver if the minimum is not met or the maximum is exceeded." The second radio button is labeled "Prevent the Resource from submitting the Time Sheet until the minimum is met and the maximum is not exceeded." At the bottom right of the dialog are "OK", "Save", and "Cancel" buttons. The status bar at the bottom left says "Ready".

- As needed, select the **Maximum percent allowed per Time Sheet** check box and specify the maximum percentage of work time to allow a resource to enter for any one time sheet, using the total time in each particular time period as a basis.
- As needed, select the **Minimum percent allowed per Time Sheet** check box and specify the minimum percentage of work time to allow a resource to enter for any one time sheet, using the total time in each particular time period as a basis.



Unless you specify a maximum of 100 percent and a minimum of 100 percent per time sheet, resources with this time sheet policy can submit a time sheet with lines that total more than or less than 100 percent. If, for example, you specify a maximum of 110 percent and a resource specifies time sheet lines with a total of 105 percent on a time sheet, the resource reports working 105 percent of the total time nominally covered by the time period for that particular time sheet.

Proceed to [step 3 on page 51](#).

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Days** or **Period in Days**, *and* if the **Period Type** specified above the tabs is **Monthly** or **Semi-Monthly** (where, in both cases, time periods have a variable number of workdays), do the following:

Time Sheet Policy : Contractors

Name: Contractors

Period Type: Semi-Monthly

Time Sheet Policy | Notifications | Min/Max Enforcement | Charge Codes | Work Items | Activities

Enforce the Following Policies:

☐ Maximum days allowed per day

☐ Maximum days allowed per Time Sheet

Days per day x Number of Workdays in Time Period

☐ Minimum days allowed per Time Sheet

Days per day x Number of Workdays in Time Period

Choose the Level of Enforcement:

☒ Warn the Resource and Approver if the minimum is not met or the maximum is exceeded.

☐ Prevent the Resource from submitting the Time Sheet until the minimum is met and the maximum is not exceeded.

OK Save Cancel

Ready

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Days**, as needed select the **Maximum days allowed per day** check box and specify the highest number of days (such as 0.75 or 1.1) to allow a resource to enter for any one workday.

This check box is not present if the **Time Sheet Policy** tab specifies that resources enter time by **Period in Days**.

- As needed, select the **Maximum days allowed per Time Sheet** check box and specify the maximum total number of days to allow a resource to enter for any one time sheet. HP Time Management will multiply this value by the (variable) number of workdays in a time period.
- As needed, select the **Minimum days allowed per Time Sheet** check box and specify the minimum total number of days to allow a resource to enter for any one time sheet. HP Time Management will multiply this value by the (variable) number of workdays in a time period.

Proceed to [step 3 on page 51](#).

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Days** or **Period in Days**, and if the **Period Type** specified above the tabs is **Bi-Weekly** (where there are 14 days and ten workdays in every period) or **Weekly** (where there are seven days and five workdays in every time period), do the following:

- If the **Time Sheet Policy** tab specifies that resources enter time by **Day in Days**, as needed select the **Maximum days allowed per day** check box and specify the highest number of days (such as 0.75 or 1.1) to allow a resource to enter for any one workday.

This check box is not present if the **Time Sheet Policy** tab specifies that resources enter time by **Period in Days**.

- As needed, select the **Maximum days allowed per Time Sheet** check box and specify the maximum total number of days to allow a resource to enter for any one time sheet.
- As needed, select the **Minimum days allowed per Time Sheet** check box and specify the minimum total number of days to allow a resource to enter for any one time sheet.

3. If you selected any of the check box options in the appropriate procedure in [step 2 on page 44](#), select one of the following options in the **Choose the Level of Enforcement** section:
 - Option to warn the resource and approver that a minimum or maximum time requirement is not met, but still allowing the time sheet to be submitted or approved
 - Option to prevent the resource from submitting the time sheet until the requirements are met
4. Click **OK** or, to configure other tabs, click **Save**.

The changes to the time sheet policy are saved.

Configuring the Charge Codes Tab

Charge codes are created and maintained from the Charge Code Workbench. See [Chapter 6, Charge Codes, on page 73](#) for the following:

- Detailed information about creating charge codes.
- Detailed information about precedence of charge codes as specified in work allocations, the time sheet policy, and override rules.
- Information about how users specify charge codes. (Also see the *HP Time Management User's Guide*.)

In the following procedure, you select one or more existing charge codes.

When you specify charge codes for a time sheet policy, they (and their percentage breakdown if you specify more than one charge code) apply to all the time sheet lines for all the resources assigned to that time sheet policy, except for lines that are subject to override rules.

Again with that exception, changes to charge code configuration take effect immediately, for both open and new time sheets. Open time sheets are time sheets that have not been closed. (If a charge code is being deleted, but it is used for work items on an open time sheet, its usage thus far on the time sheet is retained.)

To set the charge codes in the time sheet policy:

1. In the Time Sheet Policy window, select the **Charge Codes** tab.

The screenshot shows a software window titled "Time Sheet Policy : Contractors". At the top, there is a "Name:" field containing "Contractors" and a "Period Type:" dropdown menu set to "Semi-Monthly". Below these are several tabs: "Time Sheet Policy", "Notifications", "Min/Max Enforcement", "Charge Codes" (which is selected), "Work Items", and "Activities". The "Charge Codes" tab displays a table with the following headers: "Charge Code", "Percent", "Description", "Charge Code Category", and "Enabled". The table body is currently empty. Below the table, there are "Add" and "Delete" buttons. At the bottom of the window, there is a section for "Override Work Allocation Charge Codes:" with radio buttons for "Yes" and "No" (where "No" is selected). The bottom right corner contains "OK", "Save", and "Cancel" buttons. The status bar at the very bottom indicates "Ready".

2. Click **Add**.

The Charge Code Selection window opens.

3. Search for existing charge codes by completing the fields as desired in the Charge Code Selection window, as described in the following table. To display all charge codes, do not enter search criteria and skip to [step 4](#).

Field Name	Description
Query	Limits the search to the selected saved query
Charge Code Name	Limits the search to a charge code with the specified name
Enabled	Limits the search to enabled or disabled charge codes
Description	Limits the search to charge codes having the specified text in their descriptions
Charge Code Category	Limits the search to charge codes with the specified charge code category
Department	Limits the search to charge codes for the specified department
Client	Limits the search to charge codes for the specified client name

4. Click **List**.

The results of the query are listed in the Charge Code Selection window. Charge codes that are already listed on the **Charge Codes** tab of the time sheet policy are shown in bold.

5. Select one or more charge codes and click **OK**.

The Charge Code Selection window closes, and the selected charge codes are added to the **Charge Codes** tab.

6. On the **Charge Codes** tab, specify values in the **Percent** column that add up to 100 percent.

7. In addition to the charge codes specified on the time sheet policy to be applied to all time logged under this policy, a work allocation can specify separate charge codes, with percentages, that are to be specifically applied to a particular work item. (For more information, see the *HP Time Management User's Guide*.)

On the **Charge Codes** tab of the time sheet policy, you can specify whether policy-level charge codes take precedence over charge codes specified on individual work allocations. If you select **Yes** for the **Override Work Allocation Charge Codes** option, the charge codes in the time sheet policy override (prevail over) the charge code settings in any work allocations specified for the same work items. If you select **No**, the work allocation charge code settings prevail, and the policy-level charge codes are applied to only work items for which no charge codes are specified on a work allocation or for which no work allocation exists.

For more information about configuring charge codes and how HP Time Management prioritizes time sheet policies in determining them, see [Chapter 6, Charge Codes, on page 73](#).

8. Click **OK** or, to configure other tabs, click **Save**.

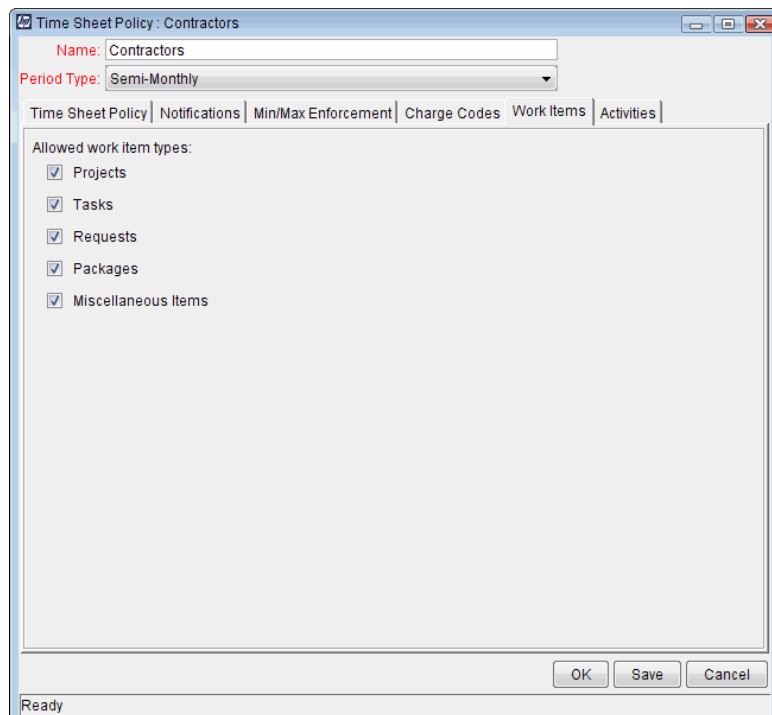
The changes to the time sheet policy are saved.

Configuring the Work Items Tab

On the **Work Items** tab, you specify which types of work items (projects, tasks, requests, packages, or miscellaneous items) users are allowed to log time against. By default, all work item types are allowed, however you will probably want to allow time to be logged against projects or tasks but not both, depending on whether most or all projects are configured to have time logged at the project level, or at the task or some summary task level.

To specify which work item types users are allowed to log time against:

1. In the Time Sheet Policy window, select the **Work Items** tab.



2. Allow or disallow users with this time sheet policy to log time for each of the work item types. The work item types you disallow do not appear in menus that are used to add items to time sheets.

The administrator can specify five parameters in the `server.conf` configuration file as `true` (the default) or `false` to indicate whether or not the functionality of corresponding work item types is available in HP Time Management at all. If set to `false`, the work item type is not listed on the **Work Items** tab. The parameters, all of which have a prefix of `com.kintana.core.server.`, are as follows:



- `ENABLE_TM_WORK_ITEM_PROJECTS`
- `ENABLE_TM_WORK_ITEM_TASKS`
- `ENABLE_TM_WORK_ITEM_REQUESTS`
- `ENABLE_TM_WORK_ITEM_PACKAGES`
- `ENABLE_TM_WORK_ITEM_MISC`

For more information, see the *Installation and Administration Guide*.

3. Click **OK** or, to configure other tabs, click **Save**.

The changes to the time sheet policy are saved.

Configuring the Activities Tab

You use the **Activities** tab to specify whether resources can specify activities for any work item types at all, and if so, the types of work items—requests, tasks, packages, and miscellaneous items—for which they must specify one or more activities when logging time.

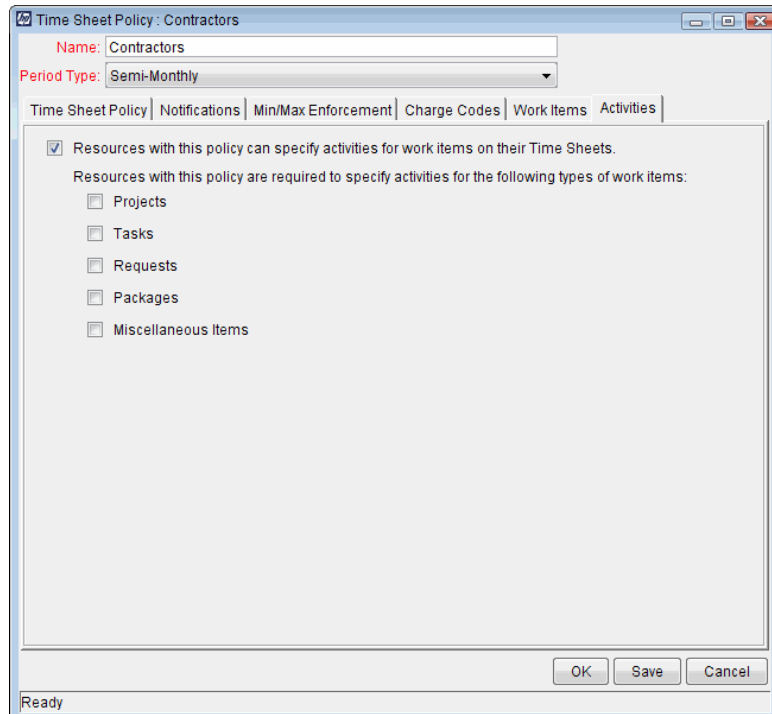
When you require users to specify activities for any particular work item type, make sure the appropriate set of activities is configured for them to select, otherwise they will not be able to submit their time sheets.

See [Chapter 5, *Activities*, on page 69](#) for the following:

- Detailed information about creating activities.
- Information about how users specify activities. (Also see the *HP Time Management User's Guide*.)

To set the activity requirements in the time sheet policy:

1. In the Time Sheet Policy window, select the **Activities** tab.



2. If you want to *allow* users to specify activities for *any* of the work items types, select the **Resources with this policy can specify activities for work items on their Time Sheets** check box.
3. Use the check boxes to indicate the types of work items for which users with this policy will be *required* to break down time by activity.
4. Click **OK** or, to configure other tabs, click **Save**.

The changes to the time sheet policy are saved.

Configuring the Global Time Sheet Policy

HP Time Management provides one predefined time sheet policy that is set as the global time sheet policy. After you create other time sheet policies, you can make any of them the new global time sheet policy. Then, when a resource is added to the system, the resource is automatically assigned the current global time sheet policy by default (but can be assigned another policy as needed). When you change which time sheet policy is the global one, previously assigned time sheet policies for other resources are not changed. (For information about assigning a specific time sheet policy to a resource, see [Configuring a Resource's Time Sheet Policy and Default Approvers](#) on page 64).

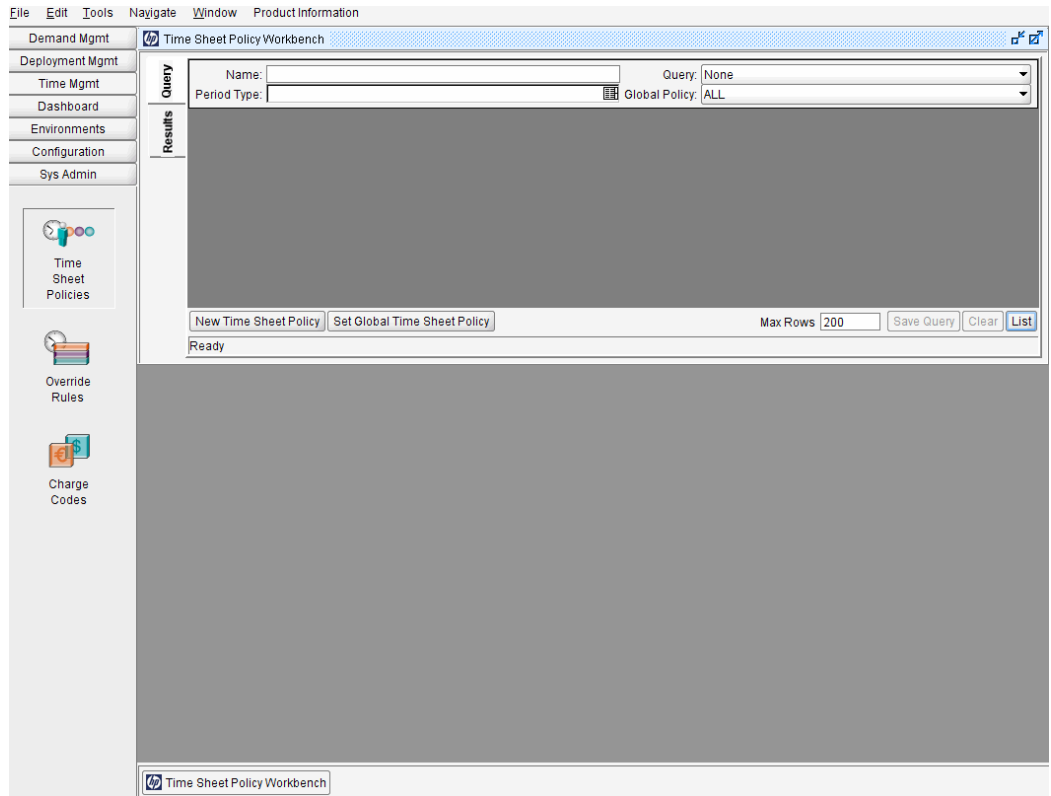
To make a time sheet policy the global time sheet policy:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

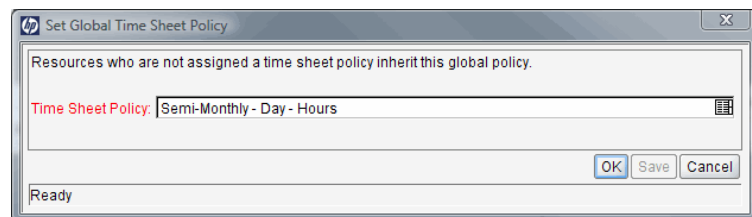
3. From the shortcut bar, select **Time Mgmt > Time Sheet Policies**.

The Time Sheet Policy Workbench opens.



4. Click **Set Global Time Sheet Policy**.

The Set Global Time Sheet Policy window opens.



5. In the **Time Sheet Policy** field, select the time sheet policy that is to become the global one.

6. Click **OK**.

The selected time sheet policy becomes the global time sheet policy, and it is automatically assigned to new resources by default.

4 Resources

Overview of Time Management Settings for Resources

A resource is an individual user who can be assigned to specific work items and can log time against them on time sheets. Resources are configured with fields such as their roles, departments, and managers.

Each resource uses HP Time Management–related features (time sheet policies, approvers, and delegations) that are configured in the standard interface on the **Time Management** tab of the Modify Resource window.



Time sheet policies are applied to resources. If you plan to use time sheet policies other than the global policy, create them before configuring the resources. See [Chapter 3, *Time Sheet Policies*, on page 25](#).

Determining Time Approvers

When a time sheet is saved or submitted, HP Time Management determines (derives) the approvers of each time sheet line.

Only people who are identified as time approvers (or their delegates) and who also have the Time Mgmt: Approve Time Sheets access grant can approve a given time sheet line. Default time approvers can be specified for individual resources (users), as described in this chapter. In fact, time approvers are determined several ways and they are derived according to priorities described as follows, depending on whether the work item type is a request, package, or miscellaneous item, or whether it is a project or task.

- For requests, packages, and miscellaneous items, note the following:
 - If the resource's time sheet policy specifies automatic approval, approval is automatic. For information about configuring a time sheet policy to allow automatic approval, see *Configuring General Information and the Time Sheet Policy Tab* on page 29.
 - Otherwise, if there is an override rule that specifies a time approver and if its dependencies (filters) are met, that person is the time approver. For information about override rules, see *Chapter 7, Override Rules*, on page 81.
 - Otherwise, the approver is the resource's default time approver as specified on the **Time Management** tab for the resource. See *Configuring a Resource's Time Sheet Policy, Default Approvers, and Delegates* on page 63.
- For projects and tasks, note the following:
 - If there is an override rule that is *specific to the task* and that specifies a time approver, and if the override rule dependencies (filters) are met, that person is the time approver. For information about override rules, see *Chapter 7, Override Rules*, on page 81.
 - Otherwise, if the project (in the **Cost and Effort** policy of the Project Settings page) requires approval by a project representative, that person (or persons) is the time approver. For information about configuring time approval in the **Cost and Effort** policy of the Project Settings page, see the chapter on integrating HP Time Management and HP Project Management in the *HP Time Management User's Guide*.
 - Otherwise, if the resource's time sheet policy specifies automatic approval, approval is automatic. For information about configuring a time sheet policy to allow automatic approval, see *Configuring General Information and the Time Sheet Policy Tab* on page 29.
 - Otherwise, if there is an override rule that is *not* specific to the task and that specifies a time approver, and if the override rule dependencies (filters) are met, that person is the time approver. For information about override rules, see *Chapter 7, Override Rules*, on page 81.

- Otherwise, the approver is the resource's default time approver as specified on the **Time Management** tab for the resource. See *Configuring a Resource's Time Sheet Policy, Default Approvers, and Delegates*.

Whenever multiple approvers can approve submitted time (for example, when the resource's time approver is a resource group, or when both a delegator and an associated delegate can approve a resource's time), only one of the approvers needs to approve or reject the submitted time.

Configuring a Resource's Time Sheet Policy, Default Approvers, and Delegates

You can specify a resource's time sheet policy, default approvers, and delegates on the **Time Management** tab for the resource. To access this tab:

1. From the menu bar in the standard interface, select **Open > Resource Management > Resources > Search Resources**.

The Search Resources window opens.

2. Complete the search criteria for the resource whose time sheet policy or approvers you want to set, and click **Search**.

The resources who meet your criteria are added in the **Select Resource to View** section of the Search Resources window.

3. Click the link for the desired resource in the **Username** column.

The Modify Resource window for that resource opens, with the **General** tab selected.

4. Select the **Time Management** tab.

Modify Resource: Jonathan Kaplan

Save Done Cancel

General Role / Skill Calendar **Time Management** Capacity / Load

Resource Time Management Settings

Resource will:

☒ Inherit Global Policy: Semi-Monthly - Day - Hours

☐ Use This Policy: [dropdown]

☐ Do not send this resource time sheet notifications

Default Time Approver: Resource [dropdown] Ron Steel [icon]

Default Billing Approver: Resource [dropdown] Ron Steel [icon]

Delegation Information

On behalf of the delegator, the "Delegated To" user can create, edit and submit time sheets, approve or reject time, and freeze or close time sheets.

Delegated To	Start Date	End Date
There are no delegations for this resource		

Add Delegate

Save Done Cancel

5. Proceed to one of the following sections:

- *Configuring a Resource's Time Sheet Policy and Default Approvers*
- *Configuring a Resource's Delegates*

Configuring a Resource's Time Sheet Policy and Default Approvers

To configure the time sheet policy and approvers for a resource:

1. If you have not already done so, access the **Time Management** tab for the resource. See *Configuring a Resource's Time Sheet Policy, Default Approvers, and Delegates* on page 63.
2. In the **Resource Time Management Settings** section, under the **Resource will:** heading, specify whether this resource will inherit the indicated global time sheet policy or use a particular time sheet policy you select.
3. Use the **Do not send this resource time sheet notifications** check box to indicate whether to send time sheet notifications to this resource. Selecting this check box prevents this resource from receiving any time sheet notifications for submitting time sheets or for reworking rejected time sheet lines, regardless of the configuration of the **Notifications** tab of that resource's time sheet policy (see *Configuring the Notifications Tab* on page 34).

4. Complete the two **Default Time Approver** fields to specify default approvers of this resource's submitted time. The default time approver is the individual resource or resource group who approves time sheet lines for this resource, unless other priorities take precedence as described in [Determining Time Approvers on page 61](#). Time approvers must have the Time Mgmt: Approve Time Sheets access grant.
5. Complete the two **Default Billing Approver** fields to specify who can freeze and close this resource's time sheets. A default billing approver is an individual resource or a resource group who freezes and closes time sheets after they are approved and who manages billing processes. See [Overview of the Time Management Process on page 10](#).
6. Click **Save**.

The selected time sheet policy and default approvers for this resource are saved.

If you change which time sheet policy a resource uses, then only new time sheets for that resource are affected.

If you change approvers for a resource, when that resource's unsubmitted time sheet is later saved or submitted, the new approvers are derived for that time sheet (delegate information is not used in determining the approvers at that time).

Analogous to time approvers, if multiple billing approvers (such as a resource group) are specified for a resource, only one of the billing approvers needs to freeze or close the resource's time sheets.

Configuring a Resource's Delegates

HP Time Management includes the concept of delegation, where one person (the delegator) temporarily assigns his or her own duties and responsibilities to another person, the delegate. Typically, people in management positions delegate review and approval authority for their time sheets to others, with specific start and end dates (for example, to cover upcoming vacations).

If a delegate has the required licenses and access grants, the delegate can do the following on behalf of the delegator:

- Create, edit, and submit time sheets
- Approve and reject submitted time logged
- Freeze and close time sheets

Both the resources and their delegates must have HP Time Management licenses. Delegates do not inherit HP Time Management licenses or access grants from delegators. For example, charge code access is not transferred to a delegate. To enable delegates to perform their duties, make sure they have the access grants, such as Time Mgmt: Edit Time Sheets or Time Mgmt: Approve Time Sheets, they need to perform the delegated responsibilities.

A manager has implicit delegations, such as the ability to edit the time sheets of direct reports, if the manager has the Time Mgmt: Edit Time Sheets access grant.

After a delegate is specified, the delegator can still perform all the same actions as the delegate.

When you search time sheets, in addition to applying any filter criteria you specify, HP Time Management shows you only the time sheets that meet at least one of the following conditions:

- You created the time sheet (or someone created it for you).
- You are the manager of the resource for the time sheet.
- You are the delegate of the resource for the time sheet.
- You are a time approver of at least one line of the time sheet.
- You are the billing approver for the time sheet.

To specify a delegate for a resource:

1. If you have not already done so, access the **Time Management** tab for the resource. See *Configuring a Resource's Time Sheet Policy, Default Approvers, and Delegates* on page 63.
2. In the **Delegation Information** section, click **Add Delegate**.
3. Select a user from the list that appears.

That user's name is added to the list of delegates, with **Start Date** and **End Date** fields that default to today's date.

4. Change the **Start Date** and **End Date** fields as necessary.
5. Repeat [step 2](#) through [step 4](#) as needed.
6. Click **Save**.

The changes to the delegates for this resource are saved.

5 Activities

Overview of Activities

HP Time Management can track actual time not only at the work item level, but also at a more granular level, using activities you define that are meaningful to your organization. The same activity can be used by any combination of work item types you specify—requests, projects, tasks, packages, and miscellaneous. This information can be useful for reporting of total work by multiple resources on each activity, and for future planning estimates.

Common activities include the following:

- Design
- Design review
- Coding
- Testing

In a time sheet policy, you can specify whether or not users are *allowed* to specify activities for any work items when they enter time on their time sheets. If allowed, you can *require* users to specify activities for any particular work item types. See [Configuring the Activities Tab on page 56](#).

You can also define activities specifically for assets. However, the time sheet policy does not provide a separate option to require that users specify activities for asset work items. Instead, in the time sheet policy, you can require that users specify activities for request work items in general (see [Configuring the Activities Tab on page 56](#)). Assets are a type of request.

You can use activities to track capitalization for SOP 98-1 compliance. The SOP 98-1 functionality must be enabled for the activities to be marked as capitalized and for projects and tasks associated with those activities to track capitalization data. For information about SOP 98-1 functionality and using activities to track capitalized costs, see the *HP Financial Management User's Guide*.

➤ To create or edit activities, you must have the Config: Edit Activities access grant.

If entry of activities is enabled on a user's time sheet policy **Activities** tab, then after selecting a time sheet line and clicking **Line Details**, the user adds activities to time sheet lines on the **Charge Codes/Activities** tab. See the example in *Figure 5-1* and the *HP Time Management User's Guide*. (If entry of activities is disabled in the time sheet policy, the tab name is **Charge Codes** rather than **Charge Codes/Activities** and no section for activities is shown.)

➤ If a task in a work plan has a specified activity, that task can have only that one activity and users cannot change it or add any other activity to it. If a task in a work plan has no specified activity, users can select and add one or more predefined activities to that task on their time sheets. Multiple activities are not transferred to the work plan, but their total time is.

Figure 5-1. Line Details, Charge Codes/Activities tab

Line Details

Description: Early prototype for management review
Expected Hours: 24

Charge Codes/Activities Approvals/Transaction Details Notes User Data

Activity Name
Design

Add Activities

Charge Codes	Description	Charge %
--------------	-------------	----------

Add Charge Codes

Apply OK Cancel

Creating Activities



If your PPM Center instance supports multiple languages, any activity you create is defined in the language you selected at logon (your session language). After the activity is created, it can be modified only in its definition language. For more information, see the *Multilingual User Interface Guide*.

To create a new activity:

1. From the menu bar in the standard interface, select **Open > Administration > Time Management > Create Activity**.

The Create Activity window opens.

Create Activity

Name:

Description:

Used For: ☒ Requests ☐ Projects ☐ Tasks ☐ Assets ☐ Packages ☐ Misc

☒ Enabled ☐ Disabled for future use

Note: Disabling this activity will not affect time sheets and tasks that are currently using it. However, it will no longer be available for use on new time sheets and tasks.

Create Cancel

2. Complete the fields in the Create Activity window and click **Create**.



You can select an SOP 98-1 category and capitalize the item only if SOP 98-1 functionality is enabled and only if the activity is specified as used for tasks. See the *HP Financial Management User's Guide*.

The activity is saved and the Create Activity window closes.

Editing Activities



If your PPM Center instance supports multiple languages and the activity is defined in a language other than your session language, you cannot modify the activity. For more information, click **Why?** in the header or see the *Multilingual User Interface Guide*.

To edit an existing activity:

1. From the menu bar in the standard interface, select **Open > Administration > Time Management > Manage Activities**.

The Manage Activities window opens, with a list of existing activities in the **Select an Activity** section.

2. Click the activity of interest in the **Activity Name** column.

The Edit Activity window opens, with the same fields as when the activity was created.

3. Change the fields as necessary and click **Save**.

The activity is saved and the Edit Activity window closes.

6 Charge Codes

Overview of Charge Codes

This chapter details procedures to configure and maintain charge codes. Charge codes are entities used as links between work items and charge accounts.

In some organizations, actual time is used as information for charge-backs to an internal customer, external customer, or requestor. HP Time Management does not explicitly perform this charge-back or billing function. However, HP Time Management can specify charge codes, so that links can be created between work items and charge accounts to allow the time information to be extracted for a billing system.

Charge codes do not have hierarchical information or any dependencies. Charge codes are simply a list of values. The Charge Code window creates, views, and updates charge codes.

► To make new charge codes visible to a user, that user must be a member of a security group with **Restrict Charge Codes to the following rules** deselected in the **Charge Code Rules** tab in the Security Group Workbench, or that user must have the appropriate rules configured to allow access.

After selecting a time sheet line and clicking **Line Details**, users add charge codes to their time sheet lines on the **Charge Codes/Activities** tab. See the example in *Figure 6-1* and the *HP Time Management User's Guide*.

► For resources whose time sheet policy disables entry of activities for all work item types (see *Configuring the Activities Tab on page 56*), the tab name is **Charge Codes** rather than **Charge Codes/Activities** and no section for activities is shown.

Figure 6-1. Line Details, Charge Codes/Activities tab

Line Details

Description: Early prototype for management review
Expected Hours: 24

Charge Codes/Activities | Approvals/Transaction Details | Notes | User Data

Activity Name
Design

Add Activities

Charge Codes	Description	Charge %
--------------	-------------	----------

Add Charge Codes

Apply OK Cancel

Default charge codes can be set for a time sheet line based on their configuration in work allocations, time sheet policies, and override rules. See [Precedence of Setting Charge Codes on page 78](#).

Creating Charge Codes



If your PPM Center instance supports multiple languages, any charge code you create is defined in the language you selected at logon (your session language). After the charge code is created, it can be modified only in its definition language. For more information, see the *Multilingual User Interface Guide*.

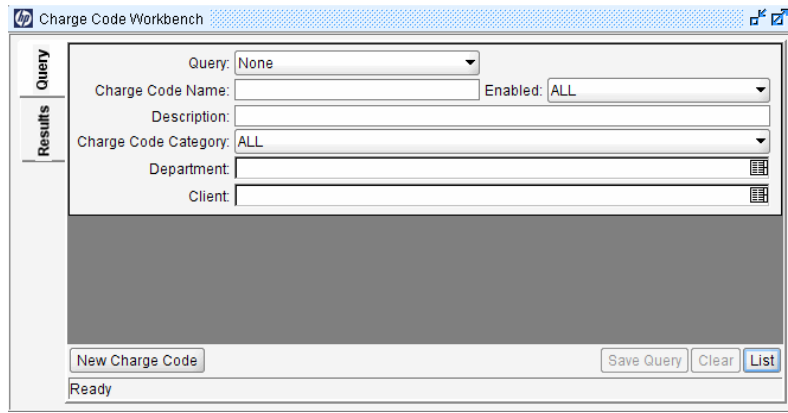
To create a new charge code:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Charge Codes**.

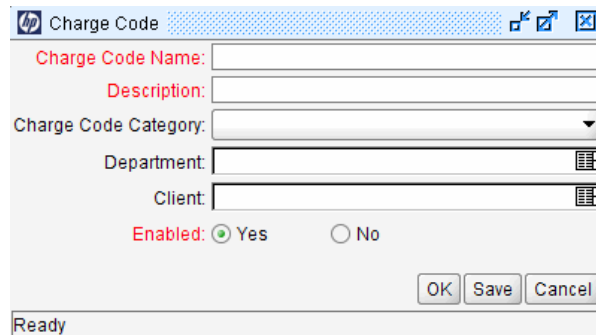
The Charge Code Workbench opens.



The screenshot shows the 'Charge Code Workbench' window. It has a sidebar with 'Query' and 'Results' tabs. The main area contains a 'Query' section with a dropdown set to 'None'. Below this are input fields for 'Charge Code Name', 'Description', 'Charge Code Category' (set to 'ALL'), 'Department', and 'Client'. At the bottom, there are buttons for 'New Charge Code', 'Save Query', 'Clear', and 'List'. The status bar at the bottom says 'Ready'.

4. Click **New Charge Code**.

The Charge Code window opens.



The screenshot shows the 'Charge Code' window. It has input fields for 'Charge Code Name', 'Description', 'Charge Code Category' (dropdown), 'Department', and 'Client'. Below these is an 'Enabled' section with radio buttons for 'Yes' (selected) and 'No'. At the bottom right are 'OK', 'Save', and 'Cancel' buttons. The status bar at the bottom says 'Ready'.

5. Complete the fields in the Charge Code window as specified in the following table:

Field Name (*Required)	Description
*Charge Code Name	Name of the charge code.
*Description	Description of the charge code.
Charge Code Category	<p>Category of the charge code. The default options are as follows:</p> <ul style="list-style-type: none">• blank (the default, equivalent to ALL in the Charge Code Workbench)• Billable• Non-Billable <p>These options can be changed as described in Chapter 9, Time Management Validations, on page 107.</p>
Department	Department of the charge code.
Client	<p>Client associated with the charge code. The default options are as follows:</p> <ul style="list-style-type: none">• blank (the default)• Client 1• Client 2 <p>These options can be changed as described in Chapter 9, Time Management Validations, on page 107.</p>
*Enabled	Option to enable the charge code.

6. Click **OK**.

The charge code is added to the system.

Editing Charge Codes



If your PPM Center instance supports multiple languages and the charge code is defined in a language other than your session language, you cannot edit the charge code. For instructions and more information, see the *Multilingual User Interface Guide*.

To edit an existing charge code:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Charge Codes**.

The Charge Code Workbench opens.

4. In the **Query** tab, enter search criteria and click **List**.

The **Results** tab lists the charge codes that meet your search criteria.

5. In the **Results** tab, open the existing charge code of interest.

The Charge Code window opens.

6. Change the fields as necessary. See the table in [step 5 on page 76](#).

7. Click **OK**.

The changes to the charge code are saved.

Deleting Charge Codes

To delete a charge code:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Charge Codes**.

The Charge Code Workbench opens.

4. In the **Query** tab, enter search criteria and click **List**.

The **Results** tab lists the charge codes that meet your search criteria.

5. In the **Results** tab, select an existing charge code and click **Delete**.

A dialog box opens for confirmation.

6. Click **Yes**.

The charge code is deleted.

Precedence of Setting Charge Codes

Default charge codes can be set for a time sheet line according to the following order of precedence:

1. **Setting the charge codes in the work allocation.** A work allocation can have associated charge codes with settings that specify whether users can update charge codes and whether users are required to enter charge codes for the time sheet line. If charge codes are required but the user does not enter any, the time sheet shows an error message when it is submitted. When a manager or planner creates a work allocation, access to it can be restricted to specified resources and groups. (For information about assigning charge codes to work allocations, see the *HP Time Management User's Guide*.) When a user adds a work item to a time sheet, if any work allocation charge codes have been specified, they get assigned to the time sheet line. Any changes to the work allocation charge codes after the time sheet line has been created are not available for that line.

2. **Setting the charge codes in the time sheet policy.** The **Charge Codes** tab in the Time Sheet Policy window allows you to set default charge codes for a time sheet policy. (See [Configuring the Charge Codes Tab on page 51](#).) In the absence of work allocation charge codes, the default charge codes for a resource (using the resource's time sheet policy) are set for every time sheet line added to a time sheet. However, if work allocation charge codes exist, the **Override Work Allocation Charge Codes** option on the **Charge Codes** tab in the Time Sheet Policy window controls which charge codes are applied.
3. **Setting the charge codes in override rules.** Override rules can determine charge codes, whether users can change the charge codes, and whether users are required to enter charge codes for the time sheet line. If a time sheet line meets the dependencies specified for an override rule and if charge codes are specified as results of the override rule, those charge codes are applied (if none have been applied yet). If the charge codes are updateable, the user can change them. If the charge codes are required, the user must specify charge codes for the line. If charge codes are required but the user does not enter any, the time sheet shows an error message when it is submitted. The override rule takes precedence over time sheet policy and work allocation charge codes only if the **Override Time Sheet Policy Charge Codes** and **Override Work Allocation Charge Codes** fields in the Override Rule window are set to **Yes**. For more information about override rules, see [Chapter 7, Override Rules, on page 81](#).

7 Override Rules

Overview of Override Rules

Override rules allow you to supersede the default processes by which HP Time Management determines (derives) who approves particular time sheet lines and which charge codes apply to those lines.

For information about specifying a resource's default time approvers, see *Configuring a Resource's Time Sheet Policy and Default Approvers* on page 64. For information about how HP Time Management derives approvers, including the priority of override rules, see *Determining Time Approvers* on page 61.

For information about configuring charge codes and how HP Time Management prioritizes override rules in determining them, see *Chapter 6, Charge Codes*, on page 73.

All override rules have the following two parts:

- **Dependencies.** The filters that must be satisfied to apply the override rule.
- **Results.** The resulting rules that apply when the specified dependencies are met.

Figure 7-1 shows an example of an override rule with **Dependencies** and **Results** sections. The **Work Item Type**, **Work Item Set**, and **Work Item** dependencies are related to the time sheet line and the **Department (of Resource)** and **Title** dependencies are related to the resource. You can specify all or any subset of the five dependencies in an override rule. If all the specified dependencies are met, then the specified rules in the **Results** section are applied to the associated time sheet line.

If dependencies for more than one override rule are met, only the override rule with the highest precedence takes effect. See *Precedence of Dependencies Among Multiple Override Rules* on page 90 for detailed information about override rule precedence.

If results of an override rule are not specified, other override rules with *lower* precedence can provide results under some circumstances. See *Precedence of Results Between Override Rules and Other Settings* on page 94.

Figure 7-1. Example Override Rule window

The screenshot shows the 'Override Rule' window with the following details:

- Override Rule Name:** Rule A
- Description:** Time approver = Grayson IF Item Type = Request, Item Set = Key Release, and Item = 30122 (Alpha Test)
- Enabled:** ☒ Yes ☐ No
- Dependencies:**
 - Work Item Type: Request
 - Work Item Set: Key Release
 - Work Item: 30122
 - Department (of Resource):
 - Title:
- Results:**
 - Time Approver: Resource (Jim Grayson)
 - Billing Approver: Resource
 - Charge Codes are updateable: Yes
 - Charge Codes are required: No
 - Override Time Sheet Policy Charge Codes:
 - Override Work Allocation Charge Codes:
- Charge Codes:** A table with columns: Charge Code, Percent, Description, Charge Code Category, and Enabled.
- Buttons:** New, Delete, OK, Save, Cancel.

When the dependencies of an override rule are met, the various results of the override rule are applied at specific times of the HP Time Management process, as indicated in *Table 7-1*.

Table 7-1. When rules are applied

Rule in Results Section	Time When Rule Is Applied
Time Approver	When time sheet is saved or submitted.
Billing Approver	When time sheet is saved or submitted.
Charge Codes are updateable ^a	When charge codes in time sheet line details are edited or when the time sheet is saved.
Charge Codes are required ^a	When charge codes in time sheet line details are edited or when the time sheet is saved.
Override Time Sheet Policy Charge Codes ^a	When time sheet line is added.
Override Work Allocation Charge Codes ^a	When time sheet line is added.
Charge Codes	When time sheet line is added.
^a If this field is left blank rather than selecting Yes or No, this override rule has no effect on (that is, it never overrides) settings related to this field that may be specified elsewhere in HP Time Management.	

Creating Override Rules

To create a new override rule:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Override Rules**.

The Override Rule Workbench opens.

The screenshot shows the 'Override Rule Workbench' window. It has a sidebar with 'Query' and 'Results' tabs. The 'Query' tab is active, showing a 'Query' dropdown set to 'None'. Below it are input fields for 'Override Rule Name', 'Description', 'Work Item Type' (a dropdown), 'Work Item Set', 'Work Item', 'Department', and 'Title'. An 'Enabled' dropdown is set to 'ALL'. At the bottom are buttons for 'New Override Rule', 'Save Query', 'Clear', and 'List'. The status bar at the bottom left says 'Ready'.

4. Click **New Override Rule**.

The Override Rule window opens.

The screenshot shows the 'Override Rule' window. It has a 'Description' field and an 'Enabled' section with 'Yes' (selected) and 'No' radio buttons. Below is a 'Dependencies' section with fields for 'Work Item Type', 'Work Item Set', 'Work Item', 'Department (of Resource)', and 'Title'. The 'Results' section contains 'Time Approver' and 'Billing Approver' (both set to 'Resource'), and two dropdowns for 'Charge Codes are updateable:' and 'Charge Codes are required:'. To the right are two more dropdowns: 'Override Time Sheet Policy Charge Codes:' and 'Override Work Allocation Charge Codes:'. At the bottom is a table for 'Charge Codes' with columns: 'Charge Code', 'Percent', 'Description', 'Charge Code Category', and 'Enabled'. Below the table are 'New' and 'Delete' buttons. At the very bottom are 'OK', 'Save', and 'Cancel' buttons. The status bar at the bottom left says 'Ready'.

5. Complete the fields in the Override Rule window as specified in the following table. (For more information about the Results section, see *Precedence of Results for Override Rules* on page 93.)

Field Name (*Required)	Description
*Override Rule Name	Name of the override rule.
Description	Description of the override rule.
Enabled	Option to enable the override rule.
Dependencies section	
Work Item Type	The override rule will check the time sheet lines for the specified work item type (project, task, request, package, or miscellaneous).
Work Item Set	The override rule will check the time sheet lines for the specified work item set, which can be a specific project, request type, or package workflow. Options depend on the selected Work Item Type .
Work Item	The override rule will check the time sheet lines for the specified work item, which can be a specific project, task, request, package, or miscellaneous item. Options depend on the selected Work Item Set .
Department (of Resource)	The override rule will check the time sheet lines for resources in the specified department.
Title	The override rule will check the time sheets for resources with the specified title.
Results section	
Time Approver	These two fields set override time approver information.

Field Name (*Required)	Description
Billing Approver	<p>These two fields set override billing approver information regarding who can freeze and close a time sheet.</p> <p>Note: A time sheet can have only one billing approver. If override rules determine the same billing approver for some or all of the time sheet lines, the time sheet uses that billing approver. However, if override rules determine different billing approvers for different time sheet lines, the time sheet uses the default billing approver.</p>
Charge Codes are updateable	Option to allow resources to update the charge codes after the override rule is executed.
Charge Codes are required	Option to require resources to enter charge codes after the override rule is executed.
Override Time Sheet Policy Charge Codes	Option to override charge codes that have had defaults set by the Charge Codes tab in the Time Sheet Policy window.
Override Work Allocation Charge Codes	Option to override charge codes that have had defaults set by a work allocation.
Columns in Charge Codes section	
Charge Code	(Read-only) Charge code or codes assigned to the override rule.
Percent	Percentage of each charge code or codes assigned to the override rule. You can specify tenths of a percent. The total percentage must equal 100 percent.
Description	(Read-only) Description of the charge code or codes assigned to the override rule.
Charge Code Category	(Read-only) Category of the charge code or codes assigned to the override rule.
Enabled	(Read-only) Option to enable the charge code or codes assigned to the override rule.

6. To add and apportion charge codes:
 - a. In the **Charge Codes** section, click **New**.

The Charge Code Selection window opens.

Charge Code Selection

Query: None

Charge Code Name: Enabled: Yes

Description:

Charge Code Category: ALL

Department:

Client:

Max Rows: 200 Clear List

Charge Code	Description	Charge Code Category	Department	Client	Enabled
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OK Add Cancel

Ready

- b. Search for existing charge codes by completing the fields as desired in the Charge Code Selection window, as described in the following table. To display all charge codes, do not enter search criteria and skip to step c.

Field Name	Description
Query	Limits the search to the selected saved query.
Charge Code Name	Limits the search to a charge code with the specified name.
Enabled	Limits the search to enabled or disabled charge codes.
Description	Limits the search to charge codes having the specified text in their descriptions.
Charge Code Category	Limits the search to charge codes with the specified charge code category.
Department	Limits the search to charge codes for the specified department.
Client	Limits the search to charge codes for the specified client name.

- c. Click **List**.

The results of the query are listed in the Charge Code Selection window. Charge codes that are already listed in the override rule are shown in bold.

- d. Select one or more charge codes and click **OK**.

The Charge Code Selection window closes, and the selected charge codes are added to the **Charge Codes** section of the override rule.

- e. In the **Charge Codes** section, specify values in the **Percent** column that add up to 100 percent.

7. In the Override Rule window, click **OK**.

The override rule is saved.

Editing Override Rules

To edit an override rule:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Override Rules**.

The Override Rule Workbench opens.

4. In the **Query** tab, enter search criteria and click **List**.

The **Results** tab lists the override rules that meet your search criteria.

5. In the **Results** tab, open the existing override rule of interest.

The Override Rule window opens.

6. Change the fields as necessary. See the table in [step 5 on page 85](#).

7. Click **OK**.

The changes to the override rule are saved.

Deleting Override Rules

To delete an override rule:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Time Mgmt > Override Rules**.

The Override Rule Workbench opens.

4. In the **Query** tab, enter the search criteria and click **List**.

The **Results** tab lists the override rules that meet your search criteria.

5. In the **Results** tab, select an override rule and click **Delete**.

A dialog box opens for confirmation.

6. Click **Yes**.

The override rule is deleted.

Precedence of Dependencies Among Multiple Override Rules

All of the specified dependencies (filters) of an override rule must be satisfied to apply the rule. If all the dependencies for more than one override rule are met, only the override rule with the highest precedence takes effect. (However, see also [Precedence of Results for Override Rules on page 93](#) for more information.)

The precedence among override rules whose dependencies are all met is based on which *combination* of dependencies is met for each of the override rules. [Table 7-2](#) shows the order of override rule precedence based on which of the five dependencies, indicated by X's, are met.

Table 7-2. Override rule precedence based on which dependencies are met

Precedence	Work Item Type	Work Item Set	Work Item	Department (of Resource)	Title
1	X	X	X	X	X
2	X	X	X	X	
3	X	X	X		X
4	X	X	X		
5	X	X		X	X
6	X	X		X	
7	X	X			X
8	X	X			
9	X			X	X
10	X			X	
11	X				X
12	X				
13				X	X
14				X	
15					X
16					

Note that whenever an override rule B has a subset of the dependencies of an override rule A, and all the dependencies of rule A and rule B are met, rule A takes precedence over rule B, so the specified results of rule A take effect. In other words, more restrictive rules take precedence. For example, only precedence 1 requires that all five of the rule's dependencies be met by a time sheet line and a resource, whereas lower precedence 2 imposes no requirement upon the **Title** of the resource. Similarly, for precedence 11, the **Work Item Type** of the time sheet line and the **Title** of the resource are specified, whereas only the **Work Item Type** is specified for lower precedence 12.



If a particular project is integrated with HP Time Management and its **Cost and Effort** policy specifies that a project representative must approve time for the project, that policy supersedes any override rules for determining approvers, except where the override rule applies to a particular task. For more information about precedence of approvers, see the *HP Time Management User's Guide*.

Consider the following example cases and the dependencies for two override rules named Rule A (with precedence 4) and Rule B (with lower precedence 6), shown in [Table 7-3](#). For precedences 4 and 6, the **Title** of the resource does not matter (see [Table 7-2 on page 91](#)), so it is not considered in the example.

Table 7-3. Example of precedence of dependencies among override rules

Precedence	Override Rule	Specified Dependencies				Time Approver Result
		Work Item Type	Work Item Set	Work Item	Department (of Resource)	
4	Rule A	Request	Key Release	30122		Jim Grayson
6	Rule B	Request	Key Release		Development	Joan Bell

In the following examples, assume that, for all time sheet lines, the **Work Item Type** is **Request** and the **Work Item Set** is **Key Release**.

Case One

An engineer from Development is working on the **30122** work item (Alpha Test) of the **Key Release** request. The **Work Item Type**, **Work Item Set**, and **Work Item** dependencies for Rule A are met. So are the **Work Item Type**, **Work Item Set**, and **Department (of Resource)** dependencies for Rule B. Because Rule A has higher precedence, the engineer's time approver is set to **Jim Grayson**.

Case Two

An accountant from Finance is working on the **30122** work item of the **Key Release** request. The **Work Item Type**, **Work Item Set**, and **Work Item** dependencies for Rule A are met. The **Department (of Resource)** dependency for Rule B is not met. As a result, the accountant's time approver is set to **Jim Grayson**.

Case Three

A programmer from Development is working on the Beta Planning work item of the **Key Release** request. The **Work Item** dependency for Rule A is not met. The **Work Item Type, Work Item Set, and Department (of Resource)** dependencies for Rule B are met. As a result, the programmer's time approver is set to **Joan Bell**.

Case Four

A consultant from Services is working on the Beta Planning work item of **Key Release**. The **Work Item** dependency for Rule A is not met. The **Department (of Resource)** dependency for Rule B is not met. Neither rule applies, so the consultant's time approver is his or her default time approver.

Precedence of Results for Override Rules

The following sections discuss what can occur when a field in the **Results** section of an override rule is left blank.

Precedence of Results Among Override Rules

If a field in the **Results** section of an override rule is left blank, other override rules with *lower* precedence can populate the blank result field if their dependencies are met.

See [Table 7-4](#) and consider the cases of the previous example, with the same specified dependencies (not shown), the same specified time approver results, and the added charge code result shown.

Table 7-4. Example of precedence of results in override rules

Precedence	Override Rule	Time Approver Result	Charge Code Result
4	Rule A	Jim Grayson	
6	Rule B	Joan Bell	55

Case One

The engineer from Development and his work item met the dependencies for both Rule A and Rule B. Since Rule A takes precedence, the time approver was set to **Jim Grayson**. In addition, since the dependencies of Rule B are also met and Rule A does not specify a charge code, Rule B supplies the charge code result—the engineer’s charge code is set to **55**.

Case Two

The accountant from Finance and his work item met the dependencies for Rule A but not Rule B, so no result of Rule B can be applied. The accountant’s time approver is set to **Jim Grayson** and his default charge code is used.

Case Three

The programmer from Development and her work item met the dependencies for Rule B but not Rule A, so no result of Rule A can be applied. The programmer’s time approver is set to **Joan Bell** and her charge code is set to **55**.

Case Four

The consultant from Services and her work item did not meet the dependencies for either Rule A or Rule B, so her default time approver and default charge code are used.

Precedence of Results Between Override Rules and Other Settings

If a field in the **Results** section of an override rule is left blank (and the field does not become populated by a rule of lower precedence as described in *Precedence of Results Among Override Rules on page 93*), the override rule does not affect the value of the field as set elsewhere in HP Time Management.

For example, each of the four **Results** fields related to charge codes (see *Figure 7-1 on page 82*) can be left blank, set to **Yes**, or set to **No**. If a field is left blank, the override rule does not affect charge code settings in the manner described by the field name. If the settings are specified elsewhere, such as on the Work Allocation Charge Code Information page, those settings remain in effect. (For detailed information about the precedence of work allocations, time sheet policies, and override rules in setting charge codes, see *Precedence of Setting Charge Codes on page 78*.)

8 HP Time Management Filters

Overview of Work Item Filters

On their time sheets, users click **Add Items** to add work items directly to their time sheets. They can also build a My Items list. In either case, they select the type of work item—project, task, request, package, or miscellaneous—to add from a drop-down list as shown in *Figure 8-1*.

Figure 8-1. Time sheet with Add Items drop-down list

The screenshot shows a web interface for a time sheet. At the top, there are links for 'View Audit Trail' and 'Printable Version'. Below this is the title 'David Jones - Time Sheet for 8/1/10 - 8/15/10 (Unsubmitted)' with 'Save' and 'Cancel' buttons. A sub-header contains 'Copy Time Sheet' and 'Cancel Time Sheet' buttons. The main form area includes fields for 'Resource: David Jones', 'Time Period: 8/1/10 to 8/15/10', and 'Time Sheet #: 1'. There is a 'Description' field with the text 'David Jones - 8/1/10 to 8/15/10' and a 'Status: Unsubmitted' label. A 'Time Sheet Policies' link is also present. The 'Add Items' dropdown menu is open, showing options: 'Add from My Items / Suggested Items', 'Add Project', 'Add Task', 'Add Request', 'Add Package', and 'Add Miscellaneous'. Below the dropdown is a 'NOTES' section with an 'Add Notes' button. At the bottom right, there are 'Save' and 'Cancel' buttons.

When a user selects **Add Project**, **Add Task**, **Add Request**, or **Add Package** (but not **Add Miscellaneous**), a window opens with filter criteria for that work item type. The window for each work item type offers the same set of general filters plus a set of filters that is unique to that work item type. For example, selecting **Add Items > Add Request** displays the window in *Figure 8-2*.

Figure 8-2. Add Requests to Time Sheet window

Add Requests to Time Sheet

Request Filters

Request Type:

Request Assigned To:

Only requests whose assigned group includes me: ☐ Yes ☒ No

Request Resource:

Only requests that list me as a resource: ☐ Yes ☒ No

Request Assigned Group:

Request Number:

General Filters

Modified in Last x Days: Created in Last x Days:

Include Closed? ☐ Yes ☒ No

The same work item filters used for time sheets also apply when creating work allocations, and they cannot be changed independently for work allocations. (All the filters for work allocations appear in one window with a section for each supported work item type.)

Users can specify values for these filters to limit the search results for work items they can then add to time sheets and work allocations. See the *HP Time Management User's Guide* for detailed information. These filters are collectively listed in [Table 8-1](#).

This chapter describes how you can add other filter criteria and make them available to users.

Table 8-1. Work item filters (page 1 of 3)

Filter (*Required)	Description
General filters	
Modified in Last x days	Limits the list of work items to those that were modified within the specified number of days.
Created in Last x days	Limits the list of work items to those that were created within the specified number of days.
Include Closed	<p>Option to include closed work items in the list of returned work items. Closed work items include the following:</p> <ul style="list-style-type: none"> • Requests that are closed • Tasks that are complete and whose projects still allow time to be logged • Packages that are closed
Project filters ^a	
Project Name Contains	Limits the list of projects to those with names that include the specified string.
Project Resource	Limits the list of projects to those with a participant list that includes the resource you specify. (Participant lists include resources in the project's staffing profile, resources directly assigned on tasks in the work plan, and summary task owners.)
Project Manager	Limits the list of projects to those that have the project manager you specify.
Scheduled Start From	Limits the list of projects to those that start on the specified date or later.
Scheduled Start To	Limits the list of projects to those that start on the specified date or earlier.
Scheduled Finish From	Limits the list of projects to those that finish on the specified date or later.
Scheduled Finish To	Limits the list of projects to those that finish on the specified date or earlier.

Table 8-1. Work item filters (page 2 of 3)

Filter (*Required)	Description
Task filters^b	
Task Name Contains	Limits the list of tasks to those with names that include the specified string.
*Project	Limits the list of tasks to those in the specified project. The project must have a work plan, and the user must be allowed to log time against the project or its tasks.
Task Type	Limits the list to tasks or to summary tasks, or displays both.
Project Assigned Resource	Limits the list of tasks to those with the specified assigned resource.
Task Status	Limits the list to tasks of a particular status.
Project Manager	Limits the list of tasks to those in projects that have the specified project manager.
Scheduled Start From	Limits the list of tasks to those that start on the specified date or later.
Scheduled Start To	Limits the list of tasks to those that start on the specified date or earlier.
Scheduled Finish From	Limits the list of tasks to those that finish on the specified date or later.
Scheduled Finish To	Limits the list of tasks to those that finish on the specified date or earlier.
Request filters	
Request Type ^c	Limits the list of requests to those with the specified set of request types.
Request Assigned To	Limits the list of requests to those assigned to the specified user.
Only requests whose assigned group includes me	If set to Yes , limits the list of requests to those that include the current user in the request's assigned group.

Table 8-1. Work item filters (page 3 of 3)

Filter (*Required)	Description
Request Resource	Limits the list of requests to those that include the specified resource in the request's resource list.
Only requests that list me as a resource	If set to Yes , limits the list of requests to those that include the current user in the request's resource list.
Request Assigned Group	Limits the list of requests to those with the Request Assigned Group specified from a list of security groups.
Request Number	Limits the requests to only the one with the specified number.
Package filters	
Package Workflow	Limits the list of packages to those with the specified workflow.
Package Number	Limits the list of packages to those with the specified number.
Package Assigned Group	Limits the list of packages to those with the Package Assigned Group specified from a list of security groups.
Package Assigned To	Limits the list of packages to those assigned to the specified user.
<ul style="list-style-type: none"> a. As an additional project filter, only projects that track time at the project level are displayed. b. If a project has a work plan and it tracks time at the project level, the task filter returns top-level summary tasks. c. As described in the <i>HP Demand Management Configuration Guide</i>, you can use the Security tab on a field in a request type to specify the users and user groups who can view or edit that field. 	

Adding Work Item Filter Fields

This section details how to add a field to the work item filters. The work item filters appear in the **General Filters** section of time sheets when they are created and edited and on the Create Work Allocations page.

- Modifications to the HP Time Management work item filters should be made with the help of HP Professional Services.
- Updating the database requires privileges a DBA might not want to grant to the application administrator.
- As described in the *HP Time Management User's Guide*, users view a "Suggested Items" list of work items they can add to their time sheets. If HP Time Management validations are customized, Suggested Items list queries might need to be correspondingly customized.
- HP recommends adding no more than four or five new work item filters. SQL imposes a limitation of 4000 characters on a search query formed from the filters. Adding many filter fields causes the SQL validation to exceed this limit and break.

Overview of Adding Work Item Filter Fields

The following major steps are required to add a filter field to the work item filters:

- Determine the information described in [Prerequisites on page 101](#).
- Add the new filter field to the work item filters by editing the TMG Configurable Filters request type. See [Adding a New Filter Field to the Work Item Filters on page 102](#).
- Edit the appropriate SQL validation for the work item filter from the database. The HP Time Management SQL validations are HP-supplied data and some of them cannot be edited from the PPM Workbench. See [Editing an SQL Validation on page 105](#).
- Update the database. See [Updating the Database Table on page 106](#).

Prerequisites

Before adding a filter field, you must determine the following:

- **The name and validation ID of the SQL validation to be used for the new filter field.** Validation names are related to work item types as follows:
 - For projects, the validation names end with `Project Work Items`.
 - For tasks, the validation names end with `Task Work Items`.
 - For requests or packages, the validation names end with `Work Item`.

Table 8-2 lists the relevant validation names and their validation IDs.

Table 8-2. SQL validation IDs for filter fields

Validation Name	Validation ID
TMG - Time Sheet Details - Project Work Items	3079
TMG - Time Sheet Details - Task Work Items	2693
TMG - Time Sheet Details - Work Item	826

- **The SQL to support the new filter field.** Knowledge of SQL and database schema is required to write the SQL for the new filter field.
- **The name of the new filter field.** An example is **Creation Date**.
- **The token for the new filter field.** An example is `CREATION_DATE`. (When editing the SQL code in the SQL validation, add the `FLTR` prefix to the token name, as in `FLTR.CREATION_DATE`.)

Adding a New Filter Field to the Work Item Filters

To add a new filter field to the work item filters, edit the TMG Configurable Filters request type as follows:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Demand Mgmt > Request Types**.

The Request Type Workbench opens.

4. In the **Request Type** field of the **Query** tab, enter **TMG** and click **List**.

The **Results** tab lists only the request types associated with HP Time Management.

5. In the **Results** tab, select the **TMG Configurable Filters** request type and click **Open**.

The Request Type window opens with the **Fields** tab selected.

The screenshot shows the 'Request Type: TMG Configurable Filters' window with the 'Fields' tab selected. The window contains various configuration fields and a table of filter fields.

Request Type Name: TMG Configurable Filters
Creation Action Name: TMG Configurable Filters
Category: [Dropdown]
Extension: [Dropdown]
Description: Defines the Work Item filters used by the Time Mgmt Time Sheet and Work Allocation Pages. Please do not enable.
Meta Layer View: MREQ | TMG_CONFIGURABLE_FIL
Max Fields: 50
Enabled: ☐ Yes ☒ No

Reference Code: TMG_CONFIGURABLE_FILTERS
Request Header Type: (REFERENCE) Default
New Open buttons

Sub-Types: Workflows | User Access | Notifications | User Data | Ownership | Help Content | Resources
Fields: Layout | Display Columns | Request Status | Status Dependencies | Rules | Commands

Prompt	Token	Enabled	Component Type	Validation	Dis
Summary					
General Filters					
Project Filters					
Request Filters					
Task Filters					
Package Filters					

Buttons: + All | - All | New | Edit | Remove
Bottom Buttons: OK | Save | Cancel
Status: Ready

6. In the **Fields** tab, click **New**.

The Field: New window opens, with the **Attributes** tab selected.

7. Complete the fields in the Field: New window as specified in the following table:

Field Name (*Required)	Description
*Field Prompt	Name of the new filter field, such as Creation Date . This field name will appear among the general filters or the filters for a specific work item type, as specified in the Section Name field in the Attributes tab.
*Token	Token for the new field. This token will be used later to update the search logic. For example, if the validation SQL adds <code>FLTR.CREATION_DATE</code> , use the non-prefixed token name <code>CREATION_DATE</code> for this field.
Description	Description of the new field.
Enabled	Yes to enable the field for use. No to disable the field.

Field Name (*Required)	Description
*Validation	Validation for the new filter field. Depending on the selected validation, the Component Type and Multi-Select Enabled fields can become enabled.
Component Type	Type of field, such as drop-down list or text field. Selecting particular values in the Validation field enables this field.
Multi-Select Enabled	Option to allow multiple entries to be selected from this field. Selecting particular values in the Validation field enables this field.

Attributes tab

Section Name	Which section the new work item filter field will appear in. Do not add new sections.
Display Only	Option to make the field read-only and not updateable, even at initial request entry.
Transaction History	Not applicable.
Notes History	Not applicable.
Display on Search and Filter	Not applicable.
Display	Option to display the field in the standard interface.



As described in the *HP Demand Management Configuration Guide*, you can use the **Security** tab on a field in a request type to specify the users and user groups who can view or edit that field.

8. Click **OK**.

The changes to the new field are saved and the Field: New window closes. The Request Type window is displayed.

9. In the Request Type window, click **OK**.

The changes to the request type are saved.

Editing an SQL Validation

This section details how to edit an existing SQL validation to support the new filter field for the work item.

To edit the SQL validation:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Configuration > Validations**.

The Validation Workbench opens.

4. In the **Validation Name** field, enter **TMG** and click **List**.

The **Results** tab lists only the validations associated with HP Time Management.

5. In the **Results** tab, select the appropriate validation listed in [Table 8-2 on page 101](#), depending on the section (**Section Name**) where the new work item filter field was added in [step 7 on page 103](#).

6. Click **Open**.

The Validation window opens.

The screenshot shows the 'Validation : TMG - Time Sheet Details - Work Item' window. It contains the following fields and sections:

- Name:** TMG - Time Sheet Details - Work Item
- Reference Code:** TMG_TIME_SHEET_DETAILS_WORK_ITEM
- Description:** TMG - Time Sheet Details - Work Item
- Enabled:** ☒
- Use in Workflow?** ☐
- Component Type:** Auto Complete List
- Validated By:** SQL - Custom
- Expected list length:** ☐ Short ☒ Long
- Selection mode:** ☒ Starts With ☐ Contains
- Number of results per page:** 50
- Configuration | Filter Fields | Filter Layout** (Tabs)
- Column Headers:**

Seq	Column Header	Displ
1	Work Item Id	N
2	Work Item	Y
3	Work Item Id	N
4	Description	Y
5	Work Item Id	N
6	Work Item Set	Y
7	Work Item Id	N
- SQL:**

```
AND (FILTER.INCLUDE_CLOSED_SERV=1 OR  
wi.open_flag='Y')  
AND NOT (wi.wi_type = 'REQUEST' AND exists (SELECT  
project_request_type_id FROM pm_project_types WHERE  
project_request_type_id = wi.work_item_set_id))  
AND (wi.wi_type IN ('PACKAGE') OR 'Y' =  
KCRT_REQUEST_UTIL.can_user_log_time_to_request(TSWB.RESO  
URCE_ID, wi.work_item_id,  
to_date(TWAWB.TS_START_DATE),yyy-mm-dd),  
to_date(TWAWB.TS_END_DATE),yyy-mm-dd)))
```
- Tokens** ☒ Use Bind Variables?
- Buttons:** New, Edit, Delete, Up, Down, OK, Save, Cancel
- Footer:** Used By: Ownership, Ready (Read-Only, Seed Data)

7. Copy the SQL from the **SQL** field and paste it into an SQL editor.
8. Edit the SQL as needed.

Include the new prefixed token, such as `FLTR.CREATION_DATE`. The prefixed token should be added to the `WHERE` clause of the validation SQL.

Updating the Database Table

This section details how to copy the modified SQL to the validation in the database table.



Updating the database requires privileges a DBA might not want to grant to the application administrator.

To update the database table:

1. Connect to the database containing the database schema.
2. Update the database table as follows, where the modified SQL you copy from the editor is designated in the following bullets as `<new validation sql>`:

- For projects, add the following:

```
Update Knta_validations set validations_sql
= '<new validation sql>' where
validations_id=3079
```

- For tasks, add the following:

```
Update Knta_validations set validations_sql
= '<new validation sql>' where
validations_id=2693
```

- For requests or packages, add the following:

```
Update Knta_validations set validations_sql
= '<new validation sql>' where
validations_id=826
```

3. Stop, then restart the PPM Server so that the changes take effect.

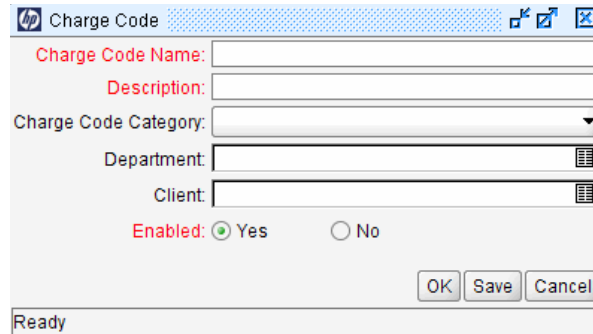
9 Time Management Validations

Overview of Time Management Validations

Validations determine the acceptable input values for fields, such as the particular miscellaneous work items to be supported. HP Time Management includes the following validations that you can customize to meet specific business requirements:

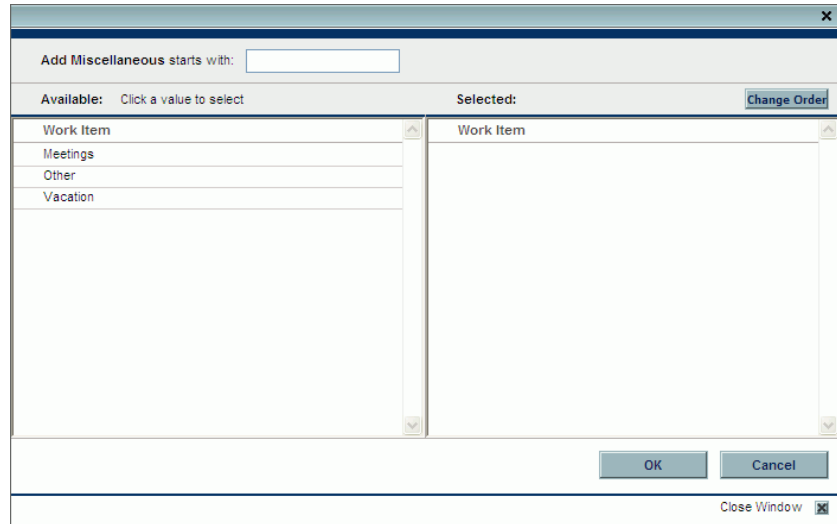
- **TMG - Charge Code Categories - Enabled.** The categories that can be specified for charge codes (see *Figure 9-1* and *Creating Charge Codes on page 74*). You can use charge code categories to restrict charge code access. The HP-supplied **Charge Code Category** values are as follows:
 - **Billable**
 - **Non-Billable**
- **TMG - Clients - Enabled.** The clients (internal or external customers, or both) that can be specified for charge codes (see *Figure 9-1* and *Creating Charge Codes on page 74*). You can use charge code clients to restrict charge code access. The HP-supplied **Client** values are as follows:
 - **Client 1**
 - **Client 2**
- **TMG - Misc. Work Items.** The miscellaneous and untrackable work items that users can add to their time sheets or their My Items lists (see *Figure 9-2* and the *HP Time Management User's Guide*). The HP-supplied **Miscellaneous** work item values are as follows:
 - **Meetings**
 - **Other**
 - **Vacation**

Figure 9-1. Charge Code window



The Charge Code window is a standard Windows-style dialog box. It has a title bar with the HP logo and the text "Charge Code". Inside, there are several input fields: "Charge Code Name:" (text box), "Description:" (text box), "Charge Code Category:" (dropdown menu), "Department:" (text box with a list icon), and "Client:" (text box with a list icon). Below these is an "Enabled:" section with two radio buttons, "Yes" (selected) and "No". At the bottom right are three buttons: "OK", "Save", and "Cancel". A status bar at the very bottom says "Ready".

Figure 9-2. Window for users to add miscellaneous items



This window is designed for adding miscellaneous items. It has a title bar with a close button (X). The main area is divided into two panes. The left pane is titled "Available: Click a value to select" and contains a list of items: "Work Item", "Meetings", "Other", and "Vacation". The right pane is titled "Selected:" and is currently empty. A "Change Order" button is located between the two panes. At the bottom right are "OK" and "Cancel" buttons. A "Close Window" button with a list icon is in the bottom right corner of the window frame.

For example, you might want to add a validation called **Business Travel** to the set of HP-supplied **Miscellaneous** work items shown in [Figure 9-2](#).

Adding Values to a Time Management Validation

To add values to a customizable HP Time Management validation:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Configuration > Validations**.

The Validation Workbench opens.

4. In the **Validation Name** field on the **Query** tab, enter **TMG** and click **List**.

The **Results** tab lists only the validations associated with HP Time Management.

5. Select the customizable HP Time Management validation of interest from the following list and click **Open**:

- **TMG - Charge Code Categories - Enabled**
- **TMG - Clients - Enabled**
- **TMG - Misc. Work Items**

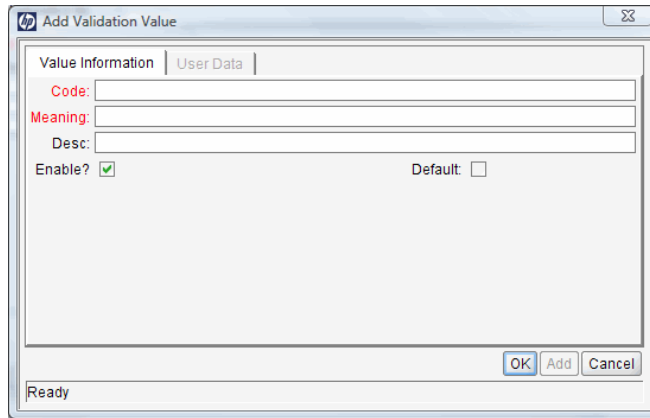
The Validation window opens with the current values of the validation.

The screenshot shows a software window titled "Validation : TMG - Misc. Work Items". It contains several fields and a table. The "Name" field is "TMG - Misc. Work Items" and the "Reference Code" is "TMG_MISC_WORK_ITEMS". The "Description" is "TMG - Misc. Work Items". The "Enabled" checkbox is checked. The "Component Type" is "Drop Down List". The "Validated By" field is "List". Below these fields is a table titled "Validation Values:" with columns: Seq, Code, Meaning, Description, Enabled, and Default. The table contains three rows of data. At the bottom of the window are buttons for "New", "Edit", "Delete", "Copy From", and a scroll bar. The status bar at the bottom indicates "Used By: Ownership" and "Ready (Read-Only, Seed Data)".

Seq	Code	Meaning	Description	Enabled	Default
11		Vacation	Vacation	Y	N
22		Meetings	Meetings	Y	N
33		Other	Other	Y	N

6. In the Validation window, click **New**.

The Add Validation Value window opens.



7. In the Add Validation Value window, complete all required fields and any optional fields. **Code** field entries must be unique. For TMG - Misc. Work Items validations, the **Code** field must be numeric.
8. Click **OK**.

The new value is added to the validation. The Add Validation Value window closes.

9. In the Validation window, click **OK**.

The changes to the validation are saved.

Copying Validation Values from a Different Validation

To copy a validation value from a different validation:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Configuration > Validations**.

The Validation Workbench opens.

4. In the **Validation Name** field on the **Query** tab, enter **TMG** and click **List**.
(This step assumes that the validation value of interest is in HP Time Management.)

The **Results** tab lists only the validations associated with HP Time Management.

5. Select a customizable HP Time Management validation and click **Open**.

The customizable HP Time Management Validations are as follows:

- **TMG - Charge Code Categories - Enabled**
- **TMG - Clients - Enabled**
- **TMG - Misc. Work Items**

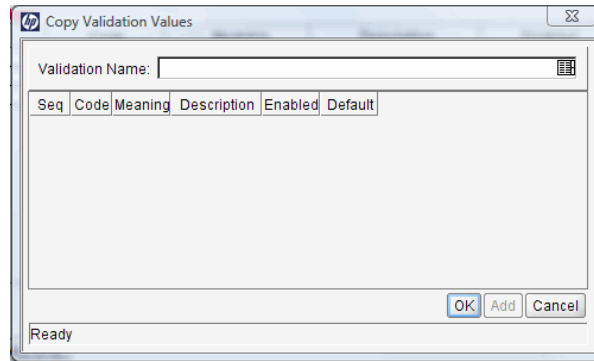
The Validation window opens, showing the values of the validation.

The screenshot shows a software window titled "Validation : TMG - Misc. Work Items". It contains several fields and a table. The "Name" field is "TMG - Misc. Work Items" and the "Reference Code" is "_TMG_MISC_WORK_ITEMS". The "Description" is "TMG - Misc. Work Items". The "Enabled" checkbox is checked. The "Component Type" is "Drop Down List". The "Validated By" field is "List". Below these fields is a table titled "Validation Values:" with columns: Seq, Code, Meaning, Description, Enabled, and Default. The table contains three rows of data. At the bottom of the window are buttons for "New", "Edit", "Delete", "Copy From", and a scroll bar. The status bar at the bottom says "Ready (Read-Only, Seed Data)".

Seq	Code	Meaning	Description	Enabled	Default
1	1	Vacation	Vacation	Y	N
2	2	Meetings	Meetings	Y	N
3	3	Other	Other	Y	N

6. In the Validation window, click **Copy From**.

The Copy Validation Values window opens.



7. In the **Validation Name** field, select the validation containing the validation value to be copied and click **OK**.

The Copy Validation Values window is populated with the values from the selected validation.

8. In the Copy Validation Values window, select one or more values to copy. **Code** field entries must be unique.
9. Click **OK**.

The selected validation value is copied to the Validation window and the Copy Validation Values window closes.

10. In the Validation window, click **OK**.

The changes to the validation are saved.

10 Time Management User Data

Overview of User Data

After selecting a time sheet line and clicking **Line Details**, users specify values for fields on the **User Data** tab, as in the example in [Figure 10-1](#). You configure these custom fields as described in this chapter. (The user data for *all* the lines of a time sheet is displayed on the **Additional Information** tab of the time sheet.) For more information about how users complete these fields, see the *HP Time Management User's Guide*.



For resources whose time sheet policy disables entry of activities for all work item types (see [Configuring the Activities Tab on page 56](#)), the first tab name is **Charge Codes** rather than **Charge Codes/Activities**.

Figure 10-1. Example of User Data tab for a work item

The screenshot shows a window titled 'Line Details' with a close button (X) in the top right corner. Below the title bar, the text 'Description: Early prototype for management review' and 'Expected Hours: 24' is displayed. A tabbed interface is present with four tabs: 'Charge Codes/Activities', 'Approvals/Transaction Details', 'Notes', and 'User Data'. The 'User Data' tab is currently selected. Below the tabs, there are three input fields: 'Initiative Type:' with a dropdown arrow, '# Staff Affected:' with a text input field, and 'Department:' with a dropdown arrow. At the bottom right of the dialog, there are three buttons: 'Apply', 'OK', and 'Cancel'.

In the PPM Workbench, you configure the user data fields and associated validations that resources specify for their time sheet lines. For example, as in [Figure 10-1](#), you might configure a field named **Initiative Type** that resources can optionally complete. The validation for this field could be a drop-down list with supported values of **Internal** and **External**.

For general information about configuring user data, see the *HP Deployment Management Configuration Guide*.

Configuring User Data

Configure user data fields for time sheet lines in the User Data Workbench, as follows:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open Workbench**.

The PPM Workbench opens.

3. From the shortcut bar, select **Configuration > Validations**.

The Validation Workbench opens.

4. Validations determine the acceptable input values to be supported. In this step, create as necessary the validations with supported values that you will later assign to the user data fields you plan to add.

For example, if you want to create the user data fields of *Figure 10-1* at the XYZ Corporation, you could do the following:

- For the **Initiative Type** user data field, create a new validation named **XYZ Initiative Type**, and specify that it is a drop-down list with validation values of **Internal** and **External**.
- For the **Department** user data field, create a new validation named **XYZ Department**, and specify that it is a drop-down list with validation values of **IS** and **R & D**.
- For the **# Staff Affected** user data field, create a new validation named **XYZ Number of Staff Affected**, and specify that it is a text field with a numeric data mask.

5. From the shortcut bar, select **Configuration > User Data**.

The User Data Workbench opens.

6. Click **List**.

The **Results** tab lists the available user data types.

7. Select **Time Sheet Line User Data** and click **Open**.

The User Data Context : Time Sheet Line User Data window opens.

8. To add a new field for users to complete, click **New**.

The Field: New window opens.

9. As needed, complete the fields, including any **Validation** field you created in [step 4 on page 115](#), and click **OK**.

10. Repeat [step 8](#) and [step 9](#) as needed to define all the user data fields for time sheet lines. In the example, the fields **Initiative Type**, **Department**, and **# Staff Affected** are meaningful for users' time sheet lines.
11. Use the **Layout** tab as needed to rearrange the fields as you want the user to view them (for example, as in [Figure 10-1](#) on page 114).

12. After configuring the user data fields you need, click **OK** in the User Data Context : Time Sheet Line User Data window.

11 Rules for the Suggested Items List

Overview of Rules for the Suggested Items List

To help users add appropriate items to their time sheets, HP Time Management automatically generates the Suggested Items list and presents it to the user on the **Suggested Items** tab, as in the example in [Figure 11-1](#). (Also for convenience, each user can build a personal list of work items on the adjacent **My Items** tab. Each user completely controls its contents.)

Figure 11-1. Example Suggested Items list

Add Items to Time Sheet

My Items | Suggested Items

Last updated August 6, 2010 at 3:52:16 PM PDT. [Update](#)

Item	Description	Reason
<input type="checkbox"/> Task: Obtain Approval for Design	Whirlwind > Obtain Approval for Design	Expected activity in this period
<input type="checkbox"/> Task: Prototype new function	Whirlwind > Prototype new function	Expected activity in this period
<input type="checkbox"/> Task: Refine design	Whirlwind > Refine design	Expected activity in this period
<input type="checkbox"/> Task: Write Design Specifications	Whirlwind > Write Design Specifications	Expected activity in this period
<input type="checkbox"/> Application Change Request #32272	Upgrade DB version	Requests you are assigned to or in Resource List
<input type="checkbox"/> Application Change Request #32273	Enable EMEA users	Requests you are assigned to or in Resource List
<input type="checkbox"/> Generic Request #32267	Configure demo	Requests you are assigned to or in Resource List
<input type="checkbox"/> Generic Request #32268	Present demo to stakeholders	Requests you are assigned to or in Resource List
<input type="checkbox"/> Misc: Meetings	Meetings	On previous time sheet

☐ Check all [Copy to My Items](#)

☐ Checked items will be added to your time sheet - 0 items will be added. [Add](#) [Cancel](#)

Default rules populate the Suggested Items list with the following work items:

- Each work item of any type that meets *both* of the following conditions:
 - It is on the user's most recently submitted time sheet for a previous time period.
 - It is available to the user to log time against (because it is not closed).
- Each project that meets *both* of the following conditions:
 - It contains tasks that are assigned to the user.
 - It uses HP Time Management to track time at the project level. For more information, see the *HP Time Management Configuration Guide*.
- Each summary task that meets *both* of the following conditions:
 - It contains tasks that are assigned to the user.
 - It is in a project that uses HP Time Management to track time at a specified summary task level. For more information, see *HP Time Management Configuration Guide*.
- Each task that meets *all* of the following conditions:
 - It is assigned to the user.
 - It is in a project that uses HP Time Management to track time at the task level. For more information, see *HP Time Management Configuration Guide*.
 - It can have time logged against it during this time sheet's time period (because its status is Ready and it has a scheduled start-to-finish date range that overlaps at least part of the time sheet's time period, or because its status is In Progress).
- Each request that meets *either* of the following conditions and is of a type that uses listed resources to report time in HP Time Management:
 - It was assigned to the user to work on during the time period of the time sheet the user is completing.
 - It allows all listed resources to log time and its resource list includes the user. For more information, see the *HP Demand Management Configuration Guide*.

Note that the Suggested Items list is specific to the resource and the time period.

You can create custom rules to control what appears in the Suggested Items list. See [Configuring Custom Rules for the Suggested Items List](#). These rules apply to all users. HP strongly recommends that you keep the SQL efficient and the Suggested Items list short.



Modifications to the rules for generating the Suggested Items list should be made with the help of HP Software Support. Changing the rules requires strong knowledge of SQL and updating the server file system requires privileges you might not have.

You cannot directly modify HP-supplied rules, however you can do the following:

- Disable HP-supplied rules
- Create new custom rules, either from scratch or by copying an existing rule as a starting point and revising it

You are responsible for modifying custom rules as may be necessary if HP Time Management is patched or upgraded with new HP-supplied rules.

The rules for the Suggested Items list are driven by flat text files that are read on server startup. A PPM Server restart is required after changes, deletions, or additions to the rules are made.

Configuring Custom Rules for the Suggested Items List

Files related to the Suggested Items list are located in the `<PPM_Home>/conf/quicklist` directory, which contains the following:

- `core_derivations` subdirectory, which contains the HP-supplied rules
- `custom_derivations` subdirectory, where you must save all custom rules
- Master file named `QuickListMaster.xml`, which identifies all the HP-supplied and custom rules and indicates which ones are enabled

Each HP-supplied rule or custom rule for the Suggested Items list is specified as an XML definition file with tags and SQL query information (see [Rule Definitions](#)).

To create a custom rule:

1. Copy and rename an existing HP-supplied rule from the `core_derivations` directory or an existing custom rule from the `custom_derivations` directory.

Alternatively, create the new rule from scratch as an XML file.
2. Write the new rule. See *Rule Definitions*.
3. Save the new custom rule in the `custom_derivations` directory.
4. Revise the `QuickListMaster.xml` master file in the `quicklist` directory as follows (see *QuickListMaster.xml File on page 127*):
 - a. If appropriate, disable the HP-supplied rule (found in the `core_derivations` directory) that your custom rule will replace.
 - b. Add and enable your custom rule (found in the `custom_derivations` directory).
5. Translate the values of **Description** and/or **Reason** for the new rule as needed. See *Translating Descriptions and Reasons in Custom Rule Definition Files on page 128*.
6. Restart the PPM Server.

Rule Definitions

Each rule definition is an XML file that uses the structure of the following example:

```
<derivation>
  <name>work_items_on_last_time_sheet</name>
  <description>text description</description>
  <reason>OnLastTimeSheet</reason>
  <resource-bundle>suggested_items</resource-bundle>
  <context>TIME_WORK_ITEM</context>
  <sql>
    <![CDATA[
      SELECT ...
      FROM ...
      WHERE ...
    ]]>
  </sql>
</derivation>
```

The values for the `name`, `description`, `reason`, `resource-bundle`, `context`, and `sql` tags are described in the following sections. The `description` and `resource-bundle` tags are optional.

Name

This tag is a case-sensitive code-style name (that is, one with no spaces or special characters) that uniquely identifies the rule. The `<name>` value in the rule definition and the `<name>` value to be used in the `QuickListMaster.xml` file must match.

Description

This tag is an optional text description of the rule definition. The description must not use any XML special characters. You can arrange to translate this field into other languages supported by PPM Center, as described in [Translating Descriptions and Reasons in Custom Rule Definition Files](#) on page 128.

The description must be included in the `.properties` file that has the file name specified for the `<resource-bundle>` tag in the rule definition XML file, which is `suggested_items` in the example so the file name with extension is `suggested_items.properties`. This file must be located in the following directory:

```
<PPM_Home>/conf/custom_resources/suggested_items
```

Reason

This tag is the key for the text that explains to the user the reason the item is being included in the Suggested Items list. The reason must not use any XML special characters. For example, the key `OnLastTimeSheet` could display the text `Item from previous time sheet`. You can arrange to translate this field into other languages supported by PPM Center, as described in [Translating Descriptions and Reasons in Custom Rule Definition Files](#) on page 128.

The reason must be included in the `.properties` file that has the file name specified for the `<resource-bundle>` tag in the rule definition XML file, which is `suggested_items` in the example so the file name with extension is `suggested_items.properties`. This file must be located in the following directory:

```
<PPM_Home>/conf/custom_resources/suggested_items
```

Resource Bundle

If values for `description` and/or `reason` are to be translated into other languages, this tag is the name of the `.properties` file that contains those values. A new `.properties` file must be created for each language to which `description` and/or `reason` are to be translated. The file name must conform to Java resource bundle naming conventions, including any required suffix such as `_de` for German or `_pt_BR` for Brazilian Portuguese. For more information, see [Translating Descriptions and Reasons in Custom Rule Definition Files](#) on page 128.

Context

Keep the value of this tag as `TIME_WORK_ITEM`.

SQL

Define an SQL statement to identify work items for the Suggested Items list. Multiple lines are allowed.

Including `<![CDATA[and]]>` tags around your SQL statement allows inclusion of special or reserved characters.

The following tokens are supported:

- `[TMG.RESOURCE_ID]`
- `[TMG.PERIOD_ID]`

To be read correctly, the `SELECT` columns of the SQL statement must be aliased to the following column names (but the return order of the columns does not matter):

- `work_item_id` (ID of the work item)
 - For projects or tasks (including summary tasks/root node): `task_id`
 - For requests: `request_id`
 - For packages: `package_id`
 - For miscellaneous: `lookup_code`
- `work_item_name` (display name of the work item)
 - For projects or tasks: `task_name`
 - For requests: `request_id`
 - For packages: `package_id`
 - For miscellaneous: `lookup_meaning`
- `work_item_set_id` (ID of the work item set, such as project or request type)
 - For projects or tasks: `work_plan_id`
 - For requests: `request_type_id`
 - For packages: `workflow_id`
 - For miscellaneous: `validation_id`
- `work_item_set_name` (name of the work item set)
 - For projects or tasks: `work_plan_name`
 - For requests: `request_type_name`
 - For packages: `workflow_name`
 - For miscellaneous: `lookup_type`

- `description` (any plain text description of the work item, with suggested descriptions as follows)
 - For projects: the project description
 - For tasks: project path list to the task
 - For requests: request description
 - For packages: package description
 - For miscellaneous: lookup description
- `work_item_type` (type of the work item—internal code)
 - For projects or tasks: `TASK`
 - For requests: `REQUEST`
 - For packages: `PACKAGE`
 - For miscellaneous: `MISC`

For example, the following SQL selects all the requests that are both assigned to the user and in Approved status:

```
<sql>
  <![CDATA[
SELECT r.request_id work_item_id,
       r.request_id work_item_name,
       r.request_type_id work_item_set_id,
       rt.request_type_name work_item_set_name,
       r.description description,
       'REQUEST' work_item_type
FROM   kcrt_requests r,
       kcrt_request_types rt,
       kcrt_statuses s
WHERE  r.assigned_to_user_id = [TMG.RESOURCE_ID]
       and r.request_type_id = rt.request_type_id
       and r.status_id = s.status_id
       and s.status_name = 'Approved'
]]>
</sql>
```

QuickListMaster.xml File

The `QuickListMaster.xml` file includes the following set of tags for each rule:

- **Name.** Case-sensitive code-style name (that is, one with no spaces or special characters) that uniquely identifies the rule. The name is used throughout all the files to link information together, and it must be consistent with the `<name>` value in the rule definition.
- **Enabled flag.** Flag to indicate whether or not the rule should be used. You must change this flag on any HP-supplied rule that is to be replaced by a custom rule. Allowed values are **N** and **Y**.
- **File path.** Path to the file that defines the rule, relative to the `quicklist` directory. This path is as follows:
 - `core_derivations/<file name.xml>` for HP-supplied rules
 - `custom_derivations/<file name.xml>` for custom rules.

HP recommends making the values of `<file name.xml>` unique for each rule across the `core_derivations` and `custom_derivations` directories.

Following is a sample `QuickListMaster.xml` file:

```
<quicklist>
  <derivation>
    <name>tasks_assigned_to_me</name>
    <enabled>Y</enabled>
    <file>core_derivations/tasks_assigned_derivation.xml</file>
  </derivation>
  <derivation>
    <name>work_items_on_last_time_sheet</name>
    <enabled>Y</enabled>
    <file>core_derivations/work_items_on_last_time_sheet.xml</file>
  </derivation>
  <derivation>
    <name>requests_available_to_you</name>
    <enabled>Y</enabled>
    <file>core_derivations/
      request_resources_assignees_derivation.xml</file>
  </derivation>
  <derivation>
    <name>my_tasks</name>
    <enabled>Y</enabled>
    <file>custom_derivations/MyTasksRule.xml</file>
  </derivation>
</quicklist>
```

After you complete the new rule and the revisions to the `QuickListMaster.xml` file, the application can apply the new rule.

For more information about adding or revising rules, see [Configuring Custom Rules for the Suggested Items List](#) on page 121.

Translating Descriptions and Reasons in Custom Rule Definition Files

For custom rules for the Suggested Item list, if the values for `description` and/or `reason`, which appear as the **Description** and **Reason** columns in Suggested Items lists, are to be translated into other languages, a separate suggested items `.properties` file must be created for each language. After translation, each user sees the `description` and/or `reason` text in his or her session language, assuming that language is supported (previously installed) in PPM Center.

For example, suppose the `MyTasksRule.xml` custom rule definition file includes tags for `description` and `reason` as follows:

```
<description>MyTasksDesc</description>
<reason>MyTasksReason</reason>
```

A sample `suggested_items.properties` file with all lines commented out is provided in the following directory:

```
<PPM_Home>/conf/custom_resources/suggested_items
```

If the custom rule adds tasks from the My Tasks portlet to the Suggested Items list, you could change the content of the sample `suggested_items.properties` file to the following:

```
# Resource file for translated description and reason for
# adding tasks in My Tasks portlet to Suggested Items list.
MyTasksDesc=My tasks
MyTasksReason=In My Tasks portlet
```

Content in the `.properties` files must use the Java standard format of `<key>=<value>`. If you modify the sample `suggested_items.properties` file, remember to remove comment characters (`#`) as needed.

In the example, note that the keys in the `suggested_items.properties` file—`MyTasksDesc` and `MyTasksReason`—match the values of the `description` and `reason` tags in the `MyTasksRule.xml` custom rule definition file, as required.

A new `.properties` file must be created for each language to which the values for the keys (`My tasks` and `In My Tasks portlet` in the example) are to be translated.

The names of the `.properties` files must be appended with “_” followed by a two-character language code from the subset of languages in ISO standard 639-1 that are supported by Oracle. The file names can be further appended with “_” followed by a two-character country code from the subset of codes in ISO standard 3166-1 that are supported by Oracle.

Examples:

- `suggested_items_de.properties` for German
- `suggested_items_pt_BR.properties` for Brazilian Portuguese

To prepare for translation, for each language to which content in your `suggested_items.properties` file is to be translated, copy your `suggested_items.properties` file and append the new language code (for example, `_de`) to the file name, so that each file name indicates the intended language, and the translations can be performed accordingly.

After translation, the `.properties` files for all languages must be placed in the following directory:

```
<PPM_Home>/conf/custom_resources/suggested_items
```

For more information about using multiple languages in a single installation of PPM Center, see the *Multilingual User Interface Guide*.

A Importing Time Sheet Data from External Applications

Overview of Importing Time Sheet Data from External Applications

Some customers need to import large volumes of time sheet data from an external application into the database of PPM Center before or after they begin using HP Time Management. HP provides the time sheet data importer script (`kTMDDataConversion.sh`) for this purpose.

The time sheets that the script creates from data you specify in `.xml` files have the same functionality as if they had been originally created using HP Time Management in PPM Center. For example, the data in the `.xml` files can represent time sheets that are submitted or approved, as reflected in the time sheets the script creates. After import, the time sheets the script creates have all the functionality of time sheets that users create in HP Time Management.

The time sheet data importer script does the following:

- Processes data from one or more source `.xml` files that represent time sheets. The data in the `.xml` files must conform to the formats specified in the XML Schema Definition (`.xsd`) file provided by HP.
- Converts the time sheet data into time sheets in HP Time Management.



During the import process, the script cannot change any of the time sheet data in the `.xml` files or the corresponding time sheets it creates.

- Validates the integrity of the time sheet data as it imports the data.
- Checks for violations of time sheet policies as it imports the data.

- Supports the following:
 - All the PPM Center work item types—projects, tasks, requests, packages, and miscellaneous. (Tasks are specified by their full paths in their projects. Values of miscellaneous work items must be defined in the associated PPM Center validation.)
 - Importing data for which time was logged in the external application using any of the HP Time Management options:
 - In units of hours, day by day over the time period
 - In units of hours for the entire time period
 - As a percentage of the entire time period
 - In units of days, day by day over the time period
 - In units of days for the entire time period
 - Specifying an actual approver and an actual approval date for a time sheet line in the `.xml` file.
- Determines and populates the following data:
 - Time approver for each time sheet line if the time sheet is in Unsubmitted, Pending Approval, or In Rework status and if no time approver is specified in the `.xml` file for that line.
 - Billing approver for each time sheet if the time sheet is in Unsubmitted, Pending Approval, or In Rework status.
 - Overall status of each time sheet based on the statuses specified for its set of time sheet lines. For information about time sheet status and time sheet line status, see the *HP Time Management User's Guide*.
- Creates records in the audit trail on each time sheet indicating the following:
 - When the time sheet line was created, if specified in the `.xml` file.
 - Time sheet line approver and approval date, if specified in the `.xml` file.
- Runs several processes in parallel and uses multithreading for the creation of each time sheet to improve performance.

As needed, you can run the time sheet data importer script at different times for different source data, no matter how long HP Time Management has been in use. If you run the script a second time for the same time sheet, that is, a time sheet having the same resource, time period, and sequence number specified in the `.xml` file (other data can be the same or different), the script preserves the previously imported time sheet, does not process the new time sheet data, and logs an error.

If the imported time sheets include projects or tasks for which actual effort is logged on time sheets, you can establish the correct synchronization between HP Time Management and HP Project Management after importing the time sheets by running the `kTMPMSync.sh` script (see the *HP Project Management Configuration Guide*).

Prerequisites for Running the Time Sheet Data Importer

To run the time sheet data importer script, the following prerequisites must be met:

- You must have the Edit Time Sheets access grant.
- Values for all of the following data specified in the `.xml` file must already exist in PPM Center:
 - Work items (projects, tasks, requests, packages, and miscellaneous items)
 - MISC work items in time sheets, as values for the PPM Center validation `TMG - Misc. Work Items`
 - Resources specified for any purpose, including time sheet line approvers
 - Time periods
 - Time sheet policies
 - Activities
 - Charge codes
 - Time sheet line user data fields
 - Relevant override rules

- When you run the script, you can import data from multiple `.xml` files. Each file can include multiple time sheets, but you must place all the files in the same directory, which you specify when you run the script. That directory must contain *only* files that are to be used by the script.
- The data in all the `.xml` files must conform to the formats specified in the `timeConversion.xsd` file, which is located in the following directory:

`http://<Host>:<Port>/itg/web/knta/global/webservices/xsd`

where

`<Host>` represents the host name or IP address where your PPM Center instance is accessed.

`<Port>` represents the port number where your PPM Center instance is accessed.

`<Host>:<Port>` corresponds to value of the `BASE_URL` parameter in the `server.conf` configuration file.

- If the `.xml` file contains any non-English characters, it must use UTF-8 encoding.

Specifying the `.xml` Files Based on the `.xsd` File

Review the `timeConversion.xsd` file for the required formats of tags and data in the `.xml` files. HP recommends specifying one or two time sheets per `.xml` file to perform tests and 50–100 time sheets per `.xml` file to create the time sheets.

Table A-1 shows the fields and descriptions for the required and optional fields. Each time sheet must include one set of time sheet data and one or more sets of time sheet line data. An example is provided in the following section.

Table A-1. Fields in .xml files used by the script (page 1 of 8)

Field (*Required)	Description
Time Sheet Data	
*resourceUserName	<p>Username of the resource for whom the script will create a time sheet.</p> <p>This field becomes the Resource field in the time sheet.</p>
timesheetPolicy	<p>Name of the time sheet policy to apply to this resource.</p> <p>If not specified, the script uses the resource's current time sheet policy.</p>
*periodTypeCode	<p>One of the following period types (case-sensitive):</p> <ul style="list-style-type: none"> • WEEKLY • BI_WEEKLY • SEMI_MONTHLY • MONTHLY
periodTypeStartDay	<p>Start day of the week(s) in the period. One of the following options (case-sensitive):</p> <ul style="list-style-type: none"> • SUNDAY • MONDAY • TUESDAY • WEDNESDAY • THURSDAY • FRIDAY • SATURDAY <p>This field can be used with the <code>periodTypeCode</code> field (but only if it is <code>WEEKLY</code> or <code>BI_WEEKLY</code>) to identify the <code>PERIOD_TYPE_ID</code> that the script will use from the <code>ktmg_period_types</code> database table, as follows:</p> <ul style="list-style-type: none"> • If this field is specified, the script will use the database table <code>PERIOD_TYPE_ID</code> that specifies the same <code>PERIOD_TYPE_START_DAY</code>. • If this field is not specified, the script will use the database table <code>PERIOD_TYPE_ID</code> for which no <code>PERIOD_TYPE_START_DAY</code> is specified.

Table A-1. Fields in .xml files used by the script (page 2 of 8)

Field (*Required)	Description
*periodStartDate	<p>Start date of the period. This field is required in conjunction with the <code>PERIOD_TYPE_ID</code> (determined from the required <code>periodTypeCode</code> field and the optional <code>periodTypeStartDay</code> field) to identify a specific period for the time sheet. The format must be as in the following example, although the script ignores the time of day:</p> <p>2009-06-14T13:00:00Z</p>
timesheetSequence	<p>Sequence number of the time sheet. This field must be specified if there is more than one time sheet for the combination of resource and period.</p> <p>If not specified, the script assumes this is the only time sheet for the resource and period, and rejects other time sheets for the resource and period.</p> <p>This field becomes the Time Sheet # field in the time sheet.</p>
creationUser	<p>Username of the resource who created the time sheet.</p> <p>If not specified, the script uses the user specified as a script argument when the script is run.</p> <p>This field becomes the value in the User column in the Time Sheet Audit Trail window for the time sheet creation event.</p>
creationDate	<p>Timestamp for the creation of the time sheet.</p> <p>If not specified, the script uses the time when the script is run. The format must be as in the following example, although the script ignores the time of day:</p> <p>2009-06-15T13:00:00Z</p> <p>This field becomes the value in the Date column in the Time Sheet Audit Trail window for the time sheet creation event.</p>
lastUpdateUser	<p>Username of the resource who last updated the time sheet.</p> <p>If not specified, the script uses the user specified as a script argument when the script is run.</p>

Table A-1. Fields in .xml files used by the script (page 3 of 8)

Field (*Required)	Description
lastUpdateDate	<p>Timestamp for the creation of the time sheet.</p> <p>If not specified, the script uses the time when the script is run. The format must be as in the following example, although the script ignores the time of day:</p> <pre>2009-06-15T13:00:00Z</pre>
timesheetNotes	<p>Plain text notes.</p> <p>This field is added to the Notes section in the time sheet.</p>
Time Sheet Line Data	
*workItemType	<p>Work item type. One of the following options (case-sensitive):</p> <ul style="list-style-type: none"> • PROJECT • TASK • REQUEST • PACKAGE • MISC <p>This field becomes part of the value in the Item column for the time sheet line.</p>

Table A-1. Fields in .xml files used by the script (page 4 of 8)

Field (*Required)	Description
*workItemDescription	<p>Identifier for the work item in PPM Center, depending on its <code>workItemType</code>, as follows:</p> <ul style="list-style-type: none"> • For projects, the project name. • For tasks, the full hierarchical path, from the project name to the specific task name, concatenated into one string and delimited by the PPM Center separator <code>#@#</code>, as in the following: Project XYZ#@#First Task#@#Subtask A If several tasks in a project have identical paths, only the first one in the project sequence is used. • For requests, the Request # field. • For packages, the Package # field. • For miscellaneous items, any selection from the TMG - Misc. Work Items validation. <p>This field becomes part of the value in the Item column for the time sheet line (for tasks, the full hierarchy does not appear).</p> <p>Note: For any miscellaneous work item, this field must be coded in the .xml file in the language that will be specified for the <code>-languageCode</code> field when the script is run, otherwise the script will not find the miscellaneous work item. For more information, see Running the Time Sheet Data Importer Script on page 152.</p>

Table A-1. Fields in .xml files used by the script (page 5 of 8)

Field (*Required)	Description
*timesheetLineStatus	<p>Time sheet line status. One of the following options (case-sensitive):</p> <ul style="list-style-type: none"> • UNSUBMITTED • SUBMITTED • APPROVED • REJECTED • CANCELLED • FROZEN • CLOSED <p>This field becomes the value in the Status column for the time sheet line. (The Status column is displayed only if the time sheet has been submitted.)</p>
approver	<p>Username of the resource who approved the time sheet line.</p> <p>If not specified, PPM Center determines the time sheet line approver when the script creates the time sheet.</p> <p>This field becomes the value in the User column in the Time Sheet Audit Trail window for the approval event.</p>
approvalDate	<p>Approval date of the time sheet line. (Ignored by the script if no <code>approver</code> is specified.) The format must be as in the following example, although the script ignores the time of day:</p> <p>2009-06-15T13:00:00Z</p> <p>If the <code>approver</code> field is specified but the <code>approvalDate</code> field is not, the script uses the <code>approver</code> field and the current date when it creates the time sheet line.</p> <p>If the <code>approvalDate</code> field is specified but the <code>approver</code> field is not, the script ignores both fields.</p> <p>This field becomes the value in the Date column in the Time Sheet Audit Trail window for the approval event.</p>
timesheetLineNotes	<p>Plain text notes.</p> <p>This field is added to the Notes tab in the Line Details for the time sheet line.</p>

Table A-1. Fields in .xml files used by the script (page 6 of 8)

Field (*Required)	Description
<p>Up to 20 user data fields: <code>userData<number></code> <code>visibleUserData<number></code></p>	<p>User data fields <code>userData1</code> and <code>visibleUserData1</code> through <code>userData20</code> and <code>visibleUserData20</code>. User data fields are optional but, if used, both tags must be specified for each user data field, and they must have values that are established in PPM Center (the script does not verify the values). See the user data fields in the <code>TM_TIME_SHEET_LINES</code> database table.</p> <p>These fields are added to the User Data tab in the Line Details for the time sheet line.</p>
<code>chargecode</code>	<p>Tag for a set of charge codes to apply to the work item. Charge codes are optional, but if used, both the <code>chargecodeName</code> field and the <code>chargecodePercent</code> field described in the following rows must be specified for each charge code.</p> <p>This data is added to the Charge Codes/Activities tab in the Line Details for the time sheet line.</p>
<code>*chargecodeName</code>	<p>Name of the charge code.</p> <p>Note: For each time sheet line, this field, if used, must be coded in the .xml file in the language that will be specified for the <code>-languageCode</code> field when the script is run, otherwise the script will not find the charge code. For more information, see Running the Time Sheet Data Importer Script on page 152.</p>
<code>*chargecodePercent</code>	<p>Percentage of the work item to assign to the charge code. Percentages for each work item must add up to exactly 100.</p>
<code>*timeBreakdown</code>	<p>Tag for the optional <code>activityName</code> field and the required <code>periodValue</code> field or <code>dateValueEntry</code> (date and value) field for time logged.</p> <p>This data is added to the time sheet line.</p>

Table A-1. Fields in .xml files used by the script (page 7 of 8)

Field (*Required)	Description
activityName	<p>Optional activity for the work item.</p> <p>In a time sheet, for time logged on any work item, you can specify one or more activities. However, if you specify an activity for some of the time logged on a work item, activities must be specified for all of the time logged on the work item.</p> <p>In the .xml file, within one set of <code>timeBreakdown</code> tags, you can specify only one <code>activityName</code> field. Use multiple <code>timeBreakdown</code> tags for a time sheet line only if you need to specify multiple activities for the line.</p> <p>This data is added to the Charge Codes/Activities tab in the Line Details for the time sheet line.</p> <p>Note: For each time sheet line, this field, if used, must be coded in the .xml file in the language that will be specified for the <code>-languageCode</code> field when the script is run, otherwise the script will not find the activity. For more information, see Running the Time Sheet Data Importer Script on page 152.</p>
periodValue Note: <i>Either</i> periodValue or the date and value for dateValueEntry must be specified.	<p>If the time sheet policy requires entry of time by period in units of hours, the total number of hours in the period to log for the work item on the time sheet.</p> <p>If the time sheet policy requires entry of time by period in units of days, the total number of days in the period to log for the work item on the time sheet.</p> <p>If the time sheet policy requires entry of time by period in percent, the percentage of the period to log for the work item on the time sheet.</p> <p>During the import process, the time sheet policy determines whether the script interprets the specified value as hours for the period, as days for the period, or as a percentage for the period.</p> <p>If the time sheet policy requires entry of time by day in units of hours or by day in units of days, the script ignores this value and uses the <code>date</code> and <code>value</code> fields for the <code>dateValueEntry</code> tag instead.</p>

Table A-1. Fields in .xml files used by the script (page 8 of 8)

Field (*Required)	Description
dateValueEntry Note: <i>Either</i> periodValue or the date and value for dateValueEntry must be specified.	Tag for the entry of date and value fields instead of the periodValue field.
date	Date for the hours or portion of a day logged. The format must be as in the following example, although the script ignores the time of day: 2009-06-15T13:00:00Z If the time sheet policy requires entry of time by period in units of hours, by period in units of days, or by period in percent, the script ignores this value and uses the periodValue field instead.
value	Decimal number of hours or portion of a day logged for the date. If the time sheet policy requires entry of time by period in units of hours, by period in units of days, or by period in percent, the script ignores this value and uses the periodValue field instead.



Special characters in the .xml file, as in notes or names, must be handled either as entity references or placed inside a CDATA section with no breaks. The CDATA section starts with <![CDATA[and ends with]].

Example .xml File

This section provides an example of an .xml file created for test purposes. There are two time sheets having the following characteristics:

- Both time sheets are for the resource David Jones (username **djones**).
- Both time sheets use the **Semi-Monthly - Day - Hours** time sheet policy and the **Semi-Monthly** period type, with time entered by **Day in Hours**.
- The first time sheet starts on June 1, 2009. The second time sheet starts on June 16, 2009.

- The first time sheet reports time for one project, Project XYZ, on June 11, 2009, and one miscellaneous item, Vacation, on June 12, 2009.
- The second time sheet reports time for one task, subtask A under summary task First Task in Project XYZ, for two days, June 16 and 17.
- All time sheet lines are unsubmitted.
- Notes are provided to distinguish each time sheet and time sheet line.

The example .xml file, with values shown in bold, is as follows:

```
<?xml version="1.0" encoding="UTF-8" ?>
<timesheets>

  <timesheet>
    <resourceUserName>djones</resourceUserName>
    <timesheetPolicy>Semi-Monthly - Day - Hours
    </timesheetPolicy>
    <periodTypeCode>SEMI_MONTHLY</periodTypeCode>
    <periodStartDate>2009-06-01T08:00:00Z</periodStartDate>
    <creationUser>admin</creationUser>
    <creationDate>2009-06-23T11:00:00Z</creationDate>
    <creationUser>admin</creationUser>
    <lastUpdateDate>2009-06-23T11:00:00Z</lastUpdateDate>
    <timesheetNotes>1st time sheet</timesheetNotes>

    <timesheetLine>
      <workItemType>PROJECT</workItemType>
      <workItemDescription>ProjectXYZ</workItemDescription>
      <timesheetLineStatus>UNSUBMITTED</timesheetLineStatus>
      <timesheetLineNotes>1st time sheet, line 1
      </timesheetLineNotes>

      <timeBreakdown>
        <dateValueEntry>
          <date>2009-06-11T08:00:00Z</date>
          <value>8.5</value>
        </dateValueEntry>
      </timeBreakdown>
    </timesheetLine>
  </timesheet>
</timesheets>
```

```

<timesheetLine>
  <workItemType>MISC</workItemType>
  <workItemDescription>Vacation</workItemDescription>
  <timesheetLineStatus>UNSUBMITTED</timesheetLineStatus>
  <timesheetLineNotes>1st time sheet, line 2
  </timesheetLineNotes>

  <timeBreakdown>
    <dateValueEntry>
      <date>2009-06-12T08:00:00Z</date>
      <value>8</value>
    </dateValueEntry>
  </timeBreakdown>
</timesheetLine>

</timesheet>
<timesheet>
  <resourceUserName>davidjones</resourceUserName>
  <timesheetPolicy>Semi-Monthly - Day - Hours
  </timesheetPolicy>
  <periodTypeCode>SEMI_MONTHLY</periodTypeCode>
  <periodStartDate>2009-06-16T08:00:00Z</periodStartDate>
  <creationUser>admin</creationUser>
  <creationDate>2009-06-23T11:00:00Z</creationDate>
  <creationUser>admin</creationUser>
  <lastUpdateDate>2009-06-23T11:00:00Z</lastUpdateDate>
  <timesheetNotes>2nd time sheet</timesheetNotes>

  <timesheetLine>
    <workItemType>TASK</workItemType>
    <workItemDescription>Project XYZ#@#First Task#@#Subtask A
    </workItemDescription>
    <timesheetLineStatus>UNSUBMITTED</timesheetLineStatus>
    <timesheetLineNotes>2nd time sheet, line 1
    </timesheetLineNotes>

    <timeBreakdown>
      <dateValueEntry>
        <date>2009-06-16T08:00:00Z</date>
        <value>8</value>
      </dateValueEntry>
      <dateValueEntry>
        <date>2009-06-17T08:00:00Z</date>
        <value>8</value>
      </dateValueEntry>
    </timeBreakdown>
  </timesheetLine>

</timesheet>

</timesheets>

```


Configuring PPM Center Environments

Running the script can be a highly CPU-intensive process, depending on the volume of data to be imported as time sheets. To accommodate various quantities of data, you can change the `-maxThreadcount` argument for the number of threads the script uses. Test and production environments should be configured to help address performance considerations, as described in the following sections.

Configuring a TEST Environment

As part of testing the conversion of data in the `.xml` files to time sheets (see [Strategy for Testing and Importing the Data on page 146](#)), HP recommends running the script in a TEST environment against a subset of the actual data files to be imported as time sheets. Some tests should use a subset that is large enough to evaluate the CPU resource demand of the script and to determine an optimal number of threads for the script to use.

Make sure that the database in the TEST environment is correctly configured and sized to accommodate the time sheet data to be imported.

Configuring the Production Environment

To avoid affecting end user performance when running the script against all of the data to be imported in the production environment, HP recommends running the script on a separate physical host in production that does not include nodes with user traffic. For very large volumes of data, HP recommends configuring a separate server as a host in the PPM Center cluster or instance, but with no PPM Center nodes configured on that host. Only the PPM Center home directory should be configured on that host, because the script requires its assets and configuration data. When the time sheet import process is completed, this host can be removed.

Make sure that the database in the production environment is correctly configured and sized to accommodate the time sheet data to be imported.

Strategy for Testing and Importing the Data

This section discusses running the script to test the .xml data and to create time sheets from the .xml files. In summary, the recommended strategy is to perform the following sequence of tasks:

- Using a few .xml files, run the script in test mode on a TEST instance, which validates the source .xml files but does not create time sheets, and correct any resulting errors
- Using the same .xml files, run the script and create time sheets on the TEST instance, and correct any resulting errors
- Configure all the .xml files that will later be imported as time sheets on the production instance
- Using an appropriate subset of those .xml files, run the script and create time sheets on the TEST instance to evaluate the CPU resource demand of the script and to determine an optimal number of threads for the script to use
- Using a few .xml files, run the script in test mode on the production instance to verify correct operation
- Using all the .xml files, run the script and create time sheets on the production instance, and correct any resulting errors

Task 1: Testing .xml Files on a TEST Instance Without Creating Time Sheets

Test some .xml files on a TEST instance, as follows:

1. For testing purposes, create a project with tasks and integrate the project with HP Time Management such that actuals entered for tasks on time sheets are reflected in the project. See the *HP Project Management User's Guide*.

2. For testing purposes, create one or more `.xml` files, each with one or two time sheets, for one or two resources. For at least one time sheet line, include data for time logged against a task in the project that is integrated with HP Time Management.

Make sure the time sheet data in each file conforms to the formats specified in the `timeConversion.xsd` file. Make sure all the `.xml` files containing the time sheets are in the same directory, and note the path to that directory.

3. Run the script in test mode to verify the `test.xml` files on the TEST instance. In test mode, no time sheets are created, but logs describing errors that can be detected in the `.xml` files are created. See [Running the Time Sheet Data Importer Script on page 152](#).

You can abort the script at any time by pressing **Q + Enter** or **E + Enter**. The file the script is operating on will be left in its current location and indicated as aborted in the main progress log and in the `itg_tm_data_loader_progress` database table.

4. When the script completes, review the logs to identify specific or systematic errors that should be corrected in the `.xml` files.

The `.xml` files, unchanged, are moved to subdirectories named `SUCCESS`, `PARTIAL`, and `FAILURE`, and copies that include only the time sheet data that caused failures are added to the `resubmissions` subdirectory. For more information, see [Files Generated While Running the Time Sheet Data Importer on page 156](#).

5. To correct the original `.xml` files that were moved to the `PARTIAL` and `FAILURE` subdirectories:
 - a. Use the error logs and the data in the `resubmissions` subdirectory to understand what to correct.
 - b. Correct the original `.xml` files in the `PARTIAL` and `FAILURE` subdirectories.
 - c. Move those corrected `.xml` files back to the original directory you used when you ran the script (see [step 2](#)).
 - d. Delete the files in the `resubmissions` subdirectory.

6. Starting at [step 2](#), repeatedly run the script in test mode against corrected source `.xml` files until all errors in the files are corrected, that is, until the script moves all of the `.xml` files to the `SUCCESS` subdirectory.
7. Repeat this procedure with increasingly complex `.xml` data representing time sheets, until the script options and the variety of time sheet data applicable to your business have been tested and corrected.
8. When all the `.xml` files are in the `SUCCESS` subdirectory, move them back to the original directory you used in [step 2](#) to prepare to create test time sheets from them.

Task 2: Creating Time Sheets on the TEST Instance to Verify Correct Operation

Using the same test `.xml` files as in *Task 1: Testing .xml Files on a TEST Instance Without Creating Time Sheets*, import the test data and create PPM Center time sheets on the TEST instance, as follows:

1. Run the script on the TEST instance without using test mode. See *Running the Time Sheet Data Importer Script on page 152*.
2. Even though source `.xml` files caused no errors when you ran the script in test mode, errors can occur when you run without test mode and attempt to actually create time sheets. When the script completes, review and correct all errors as in [step 4 on page 147](#) and [step 5 on page 147](#) and rerun the script until it moves all of the `.xml` files to the `SUCCESS` subdirectory and creates corresponding time sheets.
3. In PPM Center, search for the new time sheets. Open them and verify that the time sheet lines specified in the `.xml` files exist and are correct in the time sheets.
4. Open the project integrated with HP Time Management and verify that actuals for tasks in the time sheet are *not* reflected in the project.
5. Run the `kTMPMSync.sh` script with the `-includeDates` argument set to `yes` and then verify that actuals for tasks in the time sheet are reflected in the project. For information about the `kTMPMSync.sh` script, see the *HP Project Management Configuration Guide*.

6. Run reports and portlets for HP Time Management, HP Project Management, and HP Resource Management, and verify that they reflect data in the new time sheets.
7. Cancel the time sheets that were created for test purposes.

Task 3: Completing the Configuration of All .xml Files

Based on the experience of testing some .xml files and taking corrective actions on the TEST instance, complete the configuration of the .xml files that represent *all* of the actual data to be imported. HP recommends specifying 50–100 time sheets per .xml file.

Task 4: Creating Time Sheets on the TEST Instance to Evaluate Performance

When all of the .xml files representing actual data seem to be ready to import, HP recommends running the script on the TEST instance against a subset of the actual time sheet data to be imported later on the production instance. This subset should be large enough to evaluate the CPU resource demand of the script and to determine an optimal number of threads for the script to use.

Before proceeding, make sure that the database is correctly configured and sized to accommodate the time sheet data to be imported. Also see [Configuring PPM Center Environments](#) on page 145.



If performance of the script does not meet the required throughput with higher values of the `-maxThreadcount` argument, you can run multiple concurrent executions of the script, each against different sets of .xml data. Using this approach, the CPU demand is a function of the combination of active threads among all of the script executions.

To test a subset of the .xml files representing actual data:

1. Save the subset of the .xml files in the desired directory on the TEST instance.

2. Run the script on the TEST instance without using test mode. See [Running the Time Sheet Data Importer Script on page 152](#).

While the script is running, monitor the following:

- Usage of system resources (CPU, memory, disk space)
 - Table space available in the database
3. When the script completes, review and correct all errors, as in [step 4 on page 147](#) and [step 5 on page 147](#).
 4. As needed, rerun the script with various values of the `-maxThreadcount` argument to identify the optimal value to use from a performance standpoint.
 5. Starting at [step 2](#), repeatedly run the script against corrected source `.xml` files until all errors in the files are corrected, that is, until the script moves all of the `.xml` files to the `SUCCESS` subdirectory.

When all the `.xml` files chosen for this procedure are in the `SUCCESS` subdirectory, testing on the TEST instance is complete.

6. Cancel the time sheets that were created for test purposes.

Task 5: Testing `.xml` Files on the Production Instance Without Creating Time Sheets

For information about configuring the production instance, see [Configuring the Production Environment on page 145](#).

To verify correct operation of the script on the production instance:

1. Copy a few of the `.xml` files that were successfully imported as time sheets on the TEST instance to the desired directory on the production instance.
2. Run the script in test mode on the production instance. See [Running the Time Sheet Data Importer Script on page 152](#).
3. When the script completes, review and correct all errors, as in [step 4 on page 147](#) and [step 5 on page 147](#). If the script ran without errors against an `.xml` file on the TEST instance, it should run without errors on the production instance.

Task 6: Creating Time Sheets on the Production Instance

For production environments with heavy usage of HP Time Management, such as more than 300 users logging or approving time in a peak hour, HP recommends running the script at a time other than peak usage.

When the data in all the `.xml` files is ready to use for time sheet creation on the production instance, do the following:

1. Copy all of the `.xml` files for time sheets to the desired directory on the production instance. Be sure to use any `.xml` files to which you made corrections while testing on the TEST instance.
2. Run the script on your production instance without using test mode, to create time sheets in PPM Center. Use the number of threads (`-maxThreadcount` argument) indicated by your performance testing on the TEST instance. See [Running the Time Sheet Data Importer Script on page 152](#).

While the script is running, monitor the following:

- Usage of system resources (CPU, memory, disk space)
 - Table space available in the database
 - Redo archive log growth in the database
3. When the script completes, review and correct all errors as in [step 4 on page 147](#) and [step 5 on page 147](#), and rerun the script until it moves all of the `.xml` files to the `SUCCESS` subdirectory and creates corresponding time sheets.
 4. Run the `kTMPMSync.sh` script with the `-includeDates` argument set to `yes`. For information about the `kTMPMSync.sh` script, see the *HP Project Management Configuration Guide*.

Running the Time Sheet Data Importer Script



Careful preparation of the data in the .xml file is essential to a successful import process. Reworking invalid data and rerunning the script is time consuming, especially for larger volumes of data. Make sure that prerequisites are met and that appropriate time and resources will be available when preparing to run the script and when running it.

To run the script to import time sheet data from the .xml file into the PPM Center database:

- 1. On the PPM Server, navigate to the directory that contains the kTMDDataConversion.sh script, as follows:

```
cd <PPM_Home>/bin
```

where <PPM_Home> represents the path where your PPM Center instance is installed. For example: xyzserver/E/PPMServer.

- 2. Run the following script, adding optional arguments as needed:

```
sh ./kTMDDataConversion.sh -user <username> -pwd <password>
                                -xmlLocation <XML location>
```

For example, run the following script in test mode against the source file named Source.xml in the C:/Timesheet_Data directory:

```
sh ./kTMDDataConversion.sh -user <username> -pwd <password>
                                -xmlLocation C:/Timesheet_Data/Source.xml -testMode
```

The following table describes the arguments.

Argument (*Required)	Description
* -user	Any existing PPM Center user who has the Edit Time Sheets access grant.
* -pwd	Password of the PPM Center user.
* -xmlLocation	Directory where the .xml files to be used by the script are located. Add the file name if only one file among others in the directory is to be used. The directory must contain only .xml files that can be used by the script.

Argument (*Required)	Description
-logLocation	Directory where the logs generated by the script are to be saved. The default is the directory where the <code>.xml</code> files are located. For information about the logs, see Files Generated While Running the Time Sheet Data Importer on page 156.
-maxThreadcount	Number of simultaneous threads the script can use to process data and create time sheets. The default is 10. For considerations in specifying the value of this argument, see Configuring PPM Center Environments on page 145. HP recommends using no more than 15 threads.

Argument (*Required)	Description
-checkPolicyAndDefaultCC	<p>Specifies whether the script will determine which time sheets that are in Unsubmitted, Pending Approval, or In Rework status violate any of their time sheet policies specified in the <code>.xml</code> file. For example, the user could have reported working more hours than the policy allows or fewer than it requires. In setting this argument to <code>true</code> or <code>false</code>, consider whether the specified time sheet policy should be applied now to time that users previously logged in the external application.</p> <p>A time sheet policy violation does not cause the script to log an error, and the script creates a time sheet in PPM Center, but the violations appear as usual when the time sheet is opened.</p> <p>For information about time sheet policies and violations, see Chapter 3, Time Sheet Policies, on page 25 and the <i>HP Time Management User's Guide</i>.</p> <p>If a time sheet line in the <code>.xml</code> file has a charge code specified, that charge code is imported to that line. If this argument is set to <code>true</code> and the <code>.xml</code> file does not specify a charge code, the charge code for the imported line is set according to the default charge code and override rules of the resource's time sheet policy in PPM Center.</p> <p>The default for this argument is <code>false</code>.</p>
-errorsPerMinuteForCancel	<p>Number of errors you allow per minute, for errors that prevent importing a time sheet. If exceeded, the script automatically stops running. (Some of the time sheets in a file might not be imported, but any one time sheet will be completely imported or not imported at all.)</p> <p>The default is 50.</p>

Argument (*Required)	Description
-testMode	<p>If set to <code>true</code>, runs the script and logs errors for you to review, but does not create any time sheets.</p> <p>If set to <code>false</code>, runs the script, logs errors, and imports data as new time sheets in PPM Center. The default is <code>false</code>.</p>
-languageCode	<p>Code for the language in which the <code>.xml</code> files must specify the following entities:</p> <ul style="list-style-type: none"> • <code>activityName</code> for activities • <code>chargecodeName</code> for charge codes • <code>workItemDescription</code> if <code>workItemType</code> is <code>MISC</code>, for the descriptions of miscellaneous (<code>MISC</code>) work items. <p>For example, the value of this field is <code>de</code> for German or <code>ko</code> for Korean.</p> <p>The default is the system language of the PPM Server.</p> <p>This field is provided for users who need to specify these entities in <code>.xml</code> files in a language other than the system language, such as a different session language the user selects when logging in to PPM Center.</p> <p>If any of these entities is not coded in an <code>.xml</code> file in the language specified by this field, the script cannot find the entity.</p> <p>For information about the use of multiple languages in a PPM Center instance, see the <i>Multilingual User Interface Guide</i>.</p>

Files Generated While Running the Time Sheet Data Importer

As the script completes its operation on each `.xml` file in the directory, it *moves* the file to one of the following subdirectories of the directory you specified for `logLocation`, as appropriate:

- `SUCCESS` subdirectory if all of the file's time sheets were successfully imported.
- `PARTIAL` subdirectory if only some of the file's time sheets were successfully imported. (No individual time sheet is partially imported—each time sheet is either imported entirely or not at all.)
- `FAILURE` subdirectory if none of the file's time sheets were successfully imported.

The script does not change any of the `.xml` files.

For each time sheet that does not get created from `.xml` data for any reason, the script creates the following two new files in the `resubmissions` subdirectory:

- `.log` file containing the exception
- `.xml` file containing data for *only* that time sheet, copied from the original `.xml` file so that you can more conveniently identify and correct that time sheet data in the original `.xml` file to resubmit it.

For example, if you specify the location of your source `.xml` files as `Timesheet_Data` and you do not specify a different log location (`-logLocation`) when you run the script, the directory and file structure would be as follows:

```

Timesheet_Data
    <Source .xml files with time sheet data to be processed>
SUCCESS
    <Source .xml files with successfully imported data>
PARTIAL
    <Source .xml files with partially imported data>
FAILURE
    <Source .xml files with no successfully imported data>
logs
    mainProgressLog_runId_<runID>.log
    [Example: mainProgressLog_runId_30005.log]
resubmissions
    [A .log and an .xml file for each failure to import a
    time sheet:]
    <resourceUserName>_<periodStartDate>
        <timesheetSequence>_failure_exception.log
    [Example djones_2010-06-16_1_failure_exception.log]
    <resourceUserName>_<periodStartDate>_
        <timesheetSequence>_failure_xml.xml
    [Example: djones_2010-06-16_1_failure_xml.xml]

```

Error Logs

The script logs an error and does not create a time sheet in PPM Center when it finds any of the following:

- Specified .xml file does not exist.
- Specified .xml file does not meet the required format of the .xsd file.
- Specified .xml file does not include a time sheet.

- Time sheet for this resource, time period, and sequence number already exists in PPM Center.
- Resource specified for any purpose, including the time sheet line approver, does not exist in PPM Center.
- Specified time sheet policy does not exist in PPM Center.
- Time period of the specified type and start day does not exist in PPM Center.
- Time period's start date is not within the specified time period in the .xml file.
- Time sheet in the .xml file includes lines that use different methods of entering time. Time for the lines in a time sheet must be logged entirely in one of the supported methods specified by the **Enter Time by** field on the **Time Sheet Policy** tab (see [Configuring General Information and the Time Sheet Policy Tab on page 29](#)).
- Time sheet has no time sheet lines in the .xml file.
- Work item type with the specified type and description does not exist in PPM Center.
- Work item type is not PROJECT, TASK, REQUEST, PACKAGE, or MISC.
- One or more of the time sheet lines in the time sheet does not have any actuals.
- Time breakdown for the same line is provided both with and without an activity. (Either all actuals must specify some activity, or none can.)
- Time breakdown is specified for dates that are not within the time period.



Time sheet policy violations identified by the script are not considered errors and do not cause log entries. The script creates time sheets with the violations, which are seen as usual when the time sheets are opened in PPM Center.

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